

# COLUMBIA COLLEGE

COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK



BULLETIN | 2011-2012  
JULY 15, 2011

# Directory of Services

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403 Alfred Lerner Hall  
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### Notices of Withdrawal:

Dean of Student Affairs Office  
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2920 Broadway  
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telephone (212) 854-2446

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Columbia  
University  
Bulletin

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Founded 1754

Columbia  
College  
2011-2012

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## A Letter from the Dean

Columbia College, founded in 1754, is a small, coeducational, residential college situated in a large and complex university. These circumstances work to the advantage of our students, who often enjoy the personal attention that only a small college can provide and, at the same time, attend classes that offer an impressive array of intellectual challenges and rewards.

This bulletin describes the programs of study offered by the College in the academic year 2011–2012. As a small college in a large research institution, Columbia College offers a wide array of academic programs taught by faculty working at the frontiers of their disciplines. Students can choose from among more than seventy majors, over thirty concentrations, and hundreds of electives, which range widely over the arts, humanities, natural sciences, and social sciences.

Prior to completing a major or concentration, Columbia College undergraduates complete a program of general education conducted in small seminars and guided by the College's celebrated Core Curriculum. "The Core," as it has come to be known by generations of Columbia College students, is a common curriculum of primary works in literature, philosophy, history, political theory, science, fine arts and music. Through discussion and debate, regular writing, and direct interaction between instructor and student, the Core Curriculum creates an extraordinary community of shared discourse about great ideas and influential elements of great cultures. It also develops in our students the kinds of analytic, discursive, and imaginative thinking that will prove indispensable in subsequent education and in later life.

Besides these curricular resources, Columbia offers extensive cultural, athletic, and recreational resources, as well as opportunities to participate in community outreach programs and public service activities. Although virtually all of our first-year students live in residence halls, student life at Columbia extends beyond classrooms and campus experiences to include the excitement, cultural richness, and social variety of New York City. The spirit of Columbia College finds its full and deep expression in the combination of our demanding curriculum, our dedicated faculty, our diverse and talented student body, and our special place in a great university and a great city.

I am delighted to welcome you to this vibrant community.

Michele Moody-Adams  
*Dean of Columbia College*

# Academic Calendar

The following Academic Calendar was correct and complete when compiled; however, the University reserves the right to revise or amend it, in whole or in part, at any time. Registration and change-of-program dates are tentative, and students should consult their registration materials. Information on the current status of the Academic Calendar may be obtained in the Student Service Center, 205 Kent; (212) 854-4330. Calendar information is also available at the Registrar's website: <http://www.columbia.edu/cu/registrar/>.

## FALL TERM 2011

<b>August</b>	<b>29</b>	Monday, through September 5, Monday. Orientation for entering students. Monday. Last day to submit immunity documentation for measles, mumps, and rubella; and to certify meningitis decision online.
<b>September</b>	<b>2</b>	Friday. Change of program by appointment: first-year students.
	<b>3</b>	Saturday. Change of program by appointment: all students
	<b>5</b>	<b>Monday. Labor Day. University holiday.</b>
	<b>6</b>	<b>Tuesday. Classes begin for the 256th academic year.</b>
	<b>6-9</b>	Tuesday–Friday. Change of program by appointment.
	<b>12-16</b>	Tuesday–Friday. Change of program by appointment.
	<b>9,12</b>	Friday and Monday. Deferred examination dates.
	<b>16</b>	Friday. Last day to add courses. Last day to uncover grade for course taken Pass/D/Fail. Last day to drop a Core Curriculum course. Must be registered for a minimum of 12 points.
	<b>30</b>	Friday. Last day to confirm, update, or request a waiver from student health insurance.
<b>October</b>	<b>11</b>	Tuesday. Last day for students to drop individual courses.
	<b>19</b>	Wednesday. Award of October degrees.
	<b>20</b>	Midterm Date.
<b>November</b>	<b>7</b>	<b>Academic holiday.</b> Tuesday. Last day to apply for February degrees. Applications received after this date are automatically applied to the next conferral date.
	<b>8</b>	<b>Tuesday. Election Day. University holiday.</b>
	<b>17</b>	Thursday. Last day for students to register for R credit and to change a regular course to a Pass/D/Fail course or a Pass/D/Fail course to a regular course.
	<b>14-18</b>	Monday–Friday. Registration by appointment for spring 2012 for continuing students only.
	<b>24-27</b>	<b>Thursday–Sunday. Thanksgiving holidays.</b>
<b>December</b>	<b>1</b>	Thursday. Last day to apply for May degrees. Applications received after this date are automatically applied to the next conferral date.
	<b>12</b>	Monday. Classes end.
	<b>13-15</b>	Tuesday–Thursday. Reading period.
	<b>16-23</b>	Friday–Friday. Final examinations.
	<b>26</b>	<b>Monday, through January 16, 2012, Monday. Winter holidays.</b>

**SPRING TERM 2012**

<b>January</b>	<b>1</b>	Sunday. Last day for applicants to the Class of 2015 to apply for admission.
	<b>10-13</b>	Tuesday–Friday. Change of program by appointment. Friday. Last day to submit immunity documentation for measles, mumps, and rubella; certify meningitis decision online.
	<b>16</b>	<b>Monday. Martin Luther King Jr. Day. University holiday.</b>
	<b>17</b>	<b>Tuesday. Classes begin.</b>
	<b>17-20, 23-27</b>	Tuesday–Friday, Monday–Friday. Change of program by appointment.
	<b>20, 23</b>	Friday and Monday. Deferred examination dates.
	<b>27</b>	Friday. Last day to add courses. Last day to uncover grade for course taken Pass/D/Fail. Last day to drop a Core Curriculum course. Must be registered for a minimum of 12 points.
<b>February</b>	<b>1</b>	Wednesday. Last day to confirm, update, or request a waiver from student health insurance.
	<b>8</b>	Wednesday. Award of February degrees.
	<b>21</b>	Tuesday. Last day for students to drop individual courses.
<b>March</b>	<b>5</b>	Monday. Midterm date.
	<b>12-16</b>	<b>Monday–Friday. Spring holidays.</b>
	<b>22</b>	Thursday. Last day for students to register for R credit and to change a regular course to a Pass/D/Fail course or a Pass/D/Fail course to a regular course.
<b>April</b>	<b>9-13</b>	Monday–Friday. Registration by appointment for fall 2012 for continuing students only.
	<b>30</b>	Monday. Classes end. Last day for continuing students to apply for financial aid for 2012–2013
<b>May</b>	<b>1-3</b>	Tuesday–Thursday. Reading period.
	<b>4-11</b>	Friday–Friday. Final examinations.
	<b>11</b>	Friday. Term ends.

**COMMENCEMENT**

<b>May</b>	<b>1</b>	Sunday. Baccalaureate Service.
	<b>15</b>	Tuesday. Columbia College Class Day. Columbia College Academic Awards and Prizes Ceremony.
	<b>16</b>	Wednesday. University Commencement, 2012
<b>August</b>	<b>1</b>	Wednesday. Last day to apply or reapply for the B.A. degree to be awarded in October. Applications received after this date are automatically applied to the next conferral date.

# The Administration and Faculty of Columbia College

Lee Bollinger, J.D.  
*President of the University*

John Coatsworth, Ph.D.  
*Interim Provost of the University*

Michele Moody-Adams,  
Ph.D.  
*Dean of Columbia College  
and Henry L. and Lucy G.  
Moses Professor, and Vice  
President for Undergraduate  
Education*

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## UNIVERSITY PROFESSORS

**Richard Axel**

B.A., Columbia, 1967; M.D.,  
Johns Hopkins, 1970

**Jagdish Bhagwati**

B.Com., Bombay, 1954;  
M.A., Cambridge, 1956;  
Ph.D., Massachusetts  
Institute of Technology,  
1967

**Ronald Breslow**

B.A., Harvard, 1952; M.A.,  
1954; Ph.D., 1956

**R. Kent Greenawalt**

A.B., Swarthmore, 1958;  
B.Phil., Oxford, 1960;  
LL.B., Columbia, 1963

**Wayne A. Hendrickson**

B.A., Wisconsin, 1963;  
Ph.D., Johns Hopkins, 1968

**Eric R. Kandel**

B.A., Harvard, 1952; M.D.,  
New York University, 1956

**Rosalind E. Krauss**

A.B., Wellesley, 1962; A.M.,  
Harvard, 1964; Ph.D., 1968

**Tsung-Dao Lee**

Ph.D., Chicago, 1950; Sc.D.,  
Princeton, 1958; LL.D.,  
Chinese University of Hong  
Kong, 1969

**Robert A. Mundell**

B.A., British Columbia,  
1953; Ph.D., Massachusetts  
Institute of Technology,  
1956

**Simon Schama**

B.A., Cambridge, 1966;  
M.A., 1969

**Gayatri Chakravorty  
Spivak**

B.A., Calcutta, 1959; M.A.,  
Cornell, 1962; Ph.D., 1967

**Joseph Stiglitz**

B.A., Amherst, 1964; Ph.D.,  
Massachusetts Institute of  
Technology, 1967; M.A.,  
Oxford 1976

## JOHN MITCHELL MASON PROFESSOR EMERITUS OF THE UNIVERSITY AND PROVOST EMERITUS

**Wm. Theodore de Bary**

B.A., Columbia, 1941; M.A.,  
1948; Ph.D., 1953; D. Litt.,  
St. Lawrence, 1968; L.H.D.,  
Loyola (Chicago), 1970; D.  
Litt., Columbia, 1994

## PROVOST EMERITUS AND DEAN OF THE FACULTIES EMERITUS

**Jonathan R. Cole**

*John Mitchell Mason  
Professor of the University*  
B.A., Columbia, 1964;  
Ph.D., 1969

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**Austin E. Quigley**

*Brander Matthews Professor  
of Dramatic Literature*  
B.A., Nottingham (England),  
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(England), 1969; Ph.D.,  
California (Santa Cruz),  
1971

## FACULTY

**Lila Abu-Lughod**

*Joseph L. Buttenwieser  
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B.A., Carleton, 1974; M.A.,  
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**James Eli Adams**

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S.B., Massachusetts Institute of Technology, 1977; B.A., Oxford, 1979; Ph.D., Cornell, 1987

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**Stefania Albanesi**

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**David Albert**

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B.S., Columbia, 1976; Ph.D., Rockefeller, 1981

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# Admission

**Mailing address:** Office of Undergraduate Admissions, 1130 Amsterdam Ave, 212 Hamilton Hall, Mail Code 2807, New York, NY 10027

**Office hours:** Monday through Friday, 9 a.m. to 5 p.m.

**Telephone:** 212-854-2522

**URL:** <http://www.studentaffairs.columbia.edu/admissions/>

The Columbia College first-year class of approximately one thousand and seventy students is chosen from a large and diverse group of applicants. In the process of selection, the Committee on Admissions asks questions about each applicant's academic potential, intellectual strength, and ability to think independently. The Committee also considers the general attitudes and character of the applicant, special abilities and interests, and whether he or she is likely to make productive use of the four years in the College. In its final selection, the College seeks a diversity of personalities, achievements, and talents, and of economic, social, ethnic, racial, and geographic backgrounds. Each applicant's academic record is examined, together with reports on personal qualities that have been supplied by the principal, headmaster, or counselor, and by teachers. The students' records of participation in the lives of their schools and communities are also important, as is their performance on standardized tests.

## ACADEMIC ADMISSION REQUIREMENTS

The College has no explicit number of unit requirements for admission, but applicants must present evidence that they are prepared to carry on college work in humanities, social science, foreign language, and natural science. Accordingly, the College strongly recommends the following preparation:

	<i>Years</i>
English literature and composition	4
Mathematics	3 or 4
One foreign language (ancient or modern)	3 or 4
History and social studies	3 or 4
Laboratory science	3 or 4

Students who plan to become scientists, engineers, physicians, or dentists should be as solidly grounded in mathematics and the sciences as their high school schedules and curricula have permitted. The study of mathematics at least through pre-calculus is strongly advised wherever possible.

Modifying the preparatory program just outlined—by taking more work in some subjects and less in others—is not only acceptable but may be desirable in individual cases. The vast majority of successful applicants to the College have taken five academic courses per term.

## ADMISSION PROCEDURE

### Early Decision Application Deadline

Applications must be postmarked by November 1, 2011 (for students applying for the 2012-2013 academic year).

### Regular Decision Application Deadline

Applications must be postmarked by January 1, 2012 (for students applying for the 2012-2013 academic year).

### How to Apply

Columbia utilizes The Common Application and requires a supplement. Visit <http://www.studentaffairs.columbia.edu/admissions/>. Students are strongly

encouraged to apply on-line from this site. Students without access to the Internet, should call 212-854-2522 to request an application.

### **Application Fee**

An application fee of \$80 (or a fee waiver from the applicant's school) is required. The application must be accompanied by a check or money order (or a fee waiver), not cash, or paid on line with a credit card. This fee helps to cover the actual cost of processing the application; it is not refundable and is not credited toward tuition or other charges.

### **Visiting the Campus**

Campus tours and information sessions are available at the Visitors Center, 213 Low Library. They are also offered every Saturday from mid-September through mid-November and on the second Saturday of most other months.

For further information on any of these services, call the Office of Undergraduate Admissions at 212-854-2522, or visit <http://www.studentaffairs.columbia.edu/admissions/visiting/>.

Interviews may be available with members of the Alumni Representative Committee (ARC) all over the world. Candidates are contacted by ARC members after they submit The Common Application or Columbia Supplement; they should not contact the Admissions Office to arrange such interviews. Individual interviews are not available on campus.

### **Standardized Tests Required For Admission**

1. The **SAT** consists of three sections, each graded on an 800-point scale; students who take the test more than once, will be evaluated on the highest score received in any individual section. Students are required to report all standardized testing for which they have sat.
2. Students may alternatively take the **ACT Assessment** graded on a 36-point scale; if the test is taken more than once, students will be evaluated on the highest composite score received. The Writing component offered by the ACT Assessment is mandatory for Columbia candidates.
3. In addition to either 1 or 2 above, students must also take two SAT Subject Tests of their choice. Again, students are required to report all standardized testing for which they have sat.
4. Additional requirements: Students who attend a school that does not give out conventional grades or who are home-schooled, must take two additional SAT Subject Tests in addition to all requirements outlined above.

For information about the SAT, students should visit the Educational Testing Service website. Students needing information on ACT testing should visit the ACT website.

**It is absolutely imperative that applicants have standardized scores reported directly to Columbia by the testing service.** The ETS code number for Columbia College is 2116; the ACT code is 2717. Please do not use the "rush" service in sending test scores to Columbia; doing so does not expedite the processing of test scores.

### **Notice of Final Decision**

Applicants are notified in early April of the action taken on their applications (see exception under Early Decision, below). Columbia College subscribes to the College Board's Candidates Reply Date, whereby a number of colleges agree not to require acceptance of admission from a candidate before May 1 of each year.

### **EARLY DECISION ADMISSION**

All candidates for admission to Columbia College are eligible to apply for an early decision on their applications if the College is their first choice and if their completed applications are submitted by November 1. Early Decision applicants must still meet the standardized testing requirements as outlined above. In mid-December, Early Decision applicants receive notification of acceptance, denial, or deferral to regular

decision status. Candidates admitted under the Early Decision plan are obliged to accept Columbia's offer of admission and withdraw all other applications for admission. Only students who, after consultation with the Office of Financial Aid, cite financial reasons for not attending are released from the Early Decision agreement.

### **EARLY ADMISSION**

Early admission is granted occasionally to students of special promise who have completed the junior year of secondary school and who meet these requirements:

1. they must have maintained an outstanding academic record in their secondary schools;
2. they must have the physical, intellectual, and emotional maturity to handle the rigorous program at Columbia;
3. they must have the full endorsement of their secondary schools.

Applicants for early admission should follow the normal procedure in applying, but should make sure that their applications indicate that they are applying for early admission.

### **ADMISSION WITH ADVANCED PLACEMENT**

The College grants credit for work completed under the Advanced Placement Program of the College Board. The College also grants credit for work completed under other standardized programs such as the International Baccalaureate, British A-level courses, and so forth. For details, see *Programs of Study*—Placement and Credit.

### **TRANSFER ADMISSION**

Each year the College admits, to the sophomore and junior classes, transfer students from other colleges. These students are said to be admitted with advanced standing (see *Requirements for the Degree of Bachelor of Arts* and *Programs of Study*).

#### **Application Deadline**

March 15, 2012 (for September 2012)

#### **How to Apply**

Transfer applicants use The Common Application for Transfers and the Columbia Supplement. Students should consult <http://www.studentaffairs.columbia.edu/admissions/applications/transfer.php> for special directions and information regarding financial aid, housing, and the transferability of credits. The Common Application for Transfers can be accessed through the Undergraduate Admissions website. Candidates must be sure that the Office of Admissions receives official transcripts from all secondary schools and colleges attended. The Committee on Admissions expects to receive a report on course work in progress or an additional official transcript sent at the conclusion of the term. The application fee of \$80 must be sent with The Common Application; it is not refundable and is not credited toward tuition or other fees.

### **THE VISITING STUDENT PROGRAM**

Columbia College welcomes students who wish to spend all or part of an academic year in New York. The program is not open to first-year students. Students may enter in either January or September and may spend one or two semesters at Columbia. Application deadlines are March 15 for September entrance and November 15 for January entrance. Transfer applications from visiting students are not permitted. No financial aid is available to visiting students, but they are welcome to use financial aid from their home institutions.

## How to Apply

Candidates for the Visiting Student Program must download a copy of the Visiting Student Application from the Undergraduate Admissions website and complete the appropriate application form and return it with the nonrefundable \$80 application fee. Also required of all applicants is a letter from a college dean certifying that the applicant is in good academic and disciplinary standing, and an official college transcript. These documents should be directed to the Office of Undergraduate Admissions, 1130 Amsterdam Ave, 212 Hamilton Hall, Mail Code 2807, New York, NY 10027

## INTERNATIONAL STUDENTS AND STUDENTS SCHOOLED IN OTHER COUNTRIES

International students regardless of citizenship must follow the standard application process. This includes taking the SAT and two SAT Subject Tests and may also require a test of English proficiency. Applicants should carefully review the instructions provided by the Office of Undergraduate Admissions.

### English Proficiency

To be considered for admission to Columbia, a candidate must be comfortable with rapid, idiomatic spoken English. An applicant whose home language is not English **and** whose primary language of instruction has not been English for at least five years is required to take an English proficiency examination no later than December during the application process. Both of the examinations listed here are given all over the world several times a year. Applicants who have earned a score of 650 on either the Critical Reading or the Writing section of the SAT are exempt from taking an English proficiency examination.

1. **TOEFL** (Test of English as a Foreign Language). Applicants are urged to visit the TOEFL Web site as quickly as possible for more information on this examination. A minimum score of 600 (paper-based test) or 100 (Internet-based test) is necessary for admission to Columbia. Scores must be reported directly to Columbia (code 2116).
2. **IELTS** (International English Language Testing System). Applicants are urged to visit the IELTS Web site as quickly as possible for more information on this examination. A minimum score of 7.0 is necessary for admission to Columbia. Scores must be reported directly to Columbia Undergraduate Admissions.

All students enrolling at Columbia whose first language is not English OR who received their secondary or university education in countries where English is not the native language are required to take the Columbia University English Language Placement Test at the time of enrollment (registration), even if they have taken the TOEFL or the IELTS. Students who do not meet the standards of the university may be required to take English language courses before beginning or in conjunction with their programs of study. No credit is given for these courses, and students should bear in mind the possibility that the period of study in the United States may be lengthened by the need to gain the required proficiency in English. Provisions should therefore be made for the additional living and tuition expenses that may have to be met.

### Visas and Funding

After an offer of admission to Columbia has been accepted, foreign students must request documentation for a student (F-1) visa. Foreign students holding an F-1 visa are required by the United States Immigration and Naturalization Service to carry a full program of study and can accept employment only with prior permission. Students in F-1 status may work part time (up to 20 hours per week) on campus with the permission of the International Students and Scholars Office (ISSO). Application for permission to work off campus may be made only after a full academic year in F-1 status. Permission to work off campus is given only when regulations allow and requires the prior written approval of the ISSO. Employment during either the academic year or the summer should not be considered a major means of support while at Columbia. Questions about immigration-related matters may be addressed to

the ISSO at 212-854-3587 or [isso@columbia.edu](mailto:isso@columbia.edu); please visit their web page at [www.columbia.edu/cu/isso/](http://www.columbia.edu/cu/isso/). Applicants to Columbia are evaluated without regard to their need for financial aid if they are U.S. citizens or permanent residents, or students granted refugee visas by the United States; all other candidates seeking financial aid should be aware that financial need is taken into account when evaluating candidates for admission. All financial aid awarded by Columbia is offered **only** on the basis of financial need. Financial aid awards for foreign students, including job and grant components, are funded entirely through university resources, as federal and state funds are restricted to U.S. citizens and permanent residents. More information is contained in the instructions for admissions and financial aid applications.

### **RESERVE OFFICER TRAINING CORPS (ROTC)**

Columbia College welcomes students who have received ROTC scholarships. Since Columbia does not offer ROTC courses on its campus, students with Army ROTC scholarships enroll in ROTC courses at John Jay College and Fordham, while students with Air Force ROTC scholarships take their ROTC courses at Manhattan College. Students receive transcripts from these institutions which certify the completion of their ROTC obligations.

# Financial Aid

**Mailing address:** Office of Financial Aid and Educational Financing, Columbia College, 100 Hamilton, Mail Code 2802, 1130 Amsterdam Avenue, New York, NY 10027

**Office location:** 618 Alfred Lerner Hall, 2920 Broadway, New York, NY 10027

**Office hours:** Monday through Friday, 9 a.m. to 5 p.m.

**Telephone:** 212-854-3711

**Fax:** 212-854-5353

**E-mail:** [ugrad-finaid@columbia.edu](mailto:ugrad-finaid@columbia.edu)

**URL:** <http://www.studentaffairs.columbia.edu/finaid/>

Admission to Columbia is need-blind for all students who are U.S. citizens or permanent residents. Financial aid is awarded only to students who demonstrate need. Columbia is committed to meeting the full demonstrated financial need for all applicants admitted as first-year students. Financial aid is available for all four undergraduate years, providing students continue to demonstrate financial need. While transfer admission is needblind, only limited institutional grant aid is available for transfer students. Columbia is therefore unable to meet the full need of all admitted transfer students.

## DETERMINING ELIGIBILITY

Columbia determines the amount each family can contribute to educational costs through an evaluation of the family's financial information. The difference between the family contribution and the total cost of attendance at Columbia (including tuition, room, board, fees, books, travel, and personal expenses) represents the student's demonstrated need.

The family contribution to the cost of attending Columbia consists of two elements: the parent contribution and the student contribution. The parent contribution is determined through an evaluation of parent income and assets, family size, and the number of family members attending college. The student contribution consists of a percentage of student assets and a minimum contribution from income. The minimum contribution from earnings is currently:

First-Year:	\$2,400
Sophomore:	\$2,810
Junior:	\$3,020
Senior:	\$3,150

The expected summer earnings amount is separate from the amount that students are expected to earn by working a part-time job during the academic year.

Eligibility for Columbia grant aid is limited to eight terms of undergraduate study. Students must reapply for financial aid each year and be registered for a minimum of 12 points during any term for which aid is requested. Changes in the family's circumstances—for example, increased income or a change in the number of family members attending college—will result in changes in the family contribution. In addition, the individual elements in the financial aid package may vary from year to year.

The Office of Financial Aid and Educational Financing reserves the right to revise a financial aid award if the student withdraws from school or if any information reported on a financial aid application conflicts with information on tax returns or other verification documents. If a family's financial circumstances change after submission of the financial aid application, an appeal may be made to the Office of Financial Aid and Educational Financing, in writing, for a reconsideration of the financial aid package. An appeal may be made at any time during the year if circumstances warrant; otherwise, appeals in direct response to initial award letters must be made in writing within two weeks of receipt of aid packages.

## Regulations for Holders of Columbia Scholarships

A student who is awarded a Columbia scholarship is not required to render any service to the College or to the donor, but must maintain a satisfactory academic record. For questions on scholarships, consult the Office of Financial Aid and Educational Financing.

### Satisfactory Academic Progress

Students must continue to make satisfactory academic progress toward the degree to remain eligible for financial aid. Satisfactory academic progress is reviewed at the end of each term by the Committee on Academic Standing. All students are considered for financial aid purposes to be making satisfactory academic progress as long as they are allowed to continue enrollment. For details on the College's process for evaluating students' academic progress, see *Requirements for the Degree of Bachelor of Arts and College and University Policies*. A student who is required to withdraw from the College because of failure to make satisfactory academic progress may appeal the decision to the Committee on Academic Standing. Upon returning to the College following a required withdrawal period, a student regains eligibility for financial aid.

## FINANCIAL AID AWARDS

Financial aid is awarded in the form of a "package," consisting of a combination of the various types of financial aid for which the student is eligible. Most financial aid packages include a combination of grants and "self-help." The self-help portion of a financial aid package is a part-time job during the academic year. Grants from government sources or directly from Columbia cover any remaining need beyond that covered by the self-help award.

Columbia determines the institutional and federal financial aid programs for which each student is eligible and awards funds appropriately. In addition to applying to Columbia for assistance, all financial aid applicants are expected to apply for any other grant/scholarship aid for which they may be eligible. Students must notify the Office of Financial Aid and Educational Financing if any outside awards are received.

Students who receive financial aid from Columbia grant permission to the Office of Financial Aid and Educational Financing to release relevant personal, academic, and financial information to persons or organizations outside Columbia in order to institute or to continue financial assistance that they might be eligible to receive from such sources. Students can expect that Columbia will respect their right to privacy and release information only as necessary.

The following sources of financial aid may be included in a financial aid package from Columbia.

### A. Grants and Scholarships

Through the *Columbia University Grant* (CUG) program, grants are made to fulltime matriculated Columbia College students without expectation of repayment. Grants are funded through a variety of University and College resources, including annual gifts and endowed accounts. Some of the more than two hundred special and named funds are listed under Scholarship Funds in this section. In order to be eligible for these scholarships, students and prospective students must be financial aid applicants and demonstrate financial need as determined by the Office of Financial Aid and Educational Financing.

### FEDERAL SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANTS (FSEOG)

are grants made under Title IV of the Higher Education Act of 1965, as amended, from funds entirely supplied by the federal government. These grants are awarded to students who demonstrate exceptional financial need and are made without expectation of repayment. The amount of an individual grant may range from \$200 to \$4,000 per year.



## **THE FEDERAL PELL GRANT**

program is authorized by the Education Amendments of 1972. Under this program the federal government provides grants to students who qualify on the basis of financial need. Pell grants may range from \$976 to \$5,550.

## **NEW YORK STATE TUITION ASSISTANCE PROGRAM (TAP)**

provides grants to full-time matriculated New York State residents if the family meets financial requirements set by New York State. Current TAP awards range from \$425 to \$4,925.

## **HIGHER EDUCATION OPPORTUNITY PROGRAM (HEOP)/NATIONAL OPPORTUNITY PROGRAM (NOP)**

provides supplemental financial assistance to eligible students. Students awarded HEOP/NOP grants receive the funds in the form of tuition assistance. For further information see Higher Education Opportunity Program and National Opportunity Program under Student Affairs.

## **OUTSIDE AWARDS**

may be available to students from a variety of outside sources. These include, but are not limited to, awards sponsored by secondary schools, civic organizations, parental employers, corporations, and the National Merit and National Achievement Scholarship programs. The scholarships received from outside sources will first be used to reduce the work-study portion of the financial aid award. Only after work-study has been completely eliminated will the scholarships begin to reduce any Columbia grant.

## **B. Student Employment**

All students who receive financial aid from Columbia are expected to have a part-time job to help meet the cost of education. Most students work on or near campus, but there are many interesting and rewarding jobs throughout New York City as well. Columbia maintains an extensive listing of student employment opportunities. Some of these listings are available via [www.studentaffairs.columbia.edu/finaid/forms/workstudy.php](http://www.studentaffairs.columbia.edu/finaid/forms/workstudy.php).

## **THE FEDERAL WORK-STUDY PROGRAM (FWS)**

is a program for student employment authorized by the Higher Education Act of 1965, as amended. The Work Study Payroll Office is dedicated to assisting Columbia students with all processes related to hiring and payment. The Federal Work Study Program is designed to promote part-time employment for students who are in need of earnings to finance their education and to encourage participation in community service. The goal of Columbia University's FWS program is to provide student assistance that supports a wide range of career objectives and departmental needs within the University and the community. Students who work through the work-study program are subject to the earnings limitations specified in their financial aid packages.

## **OTHER STUDENT EMPLOYMENT**

options, which do not receive funding through the Federal Work-Study program, are listed in a register of employment opportunities in the Center for Career Education, East Campus and through their website: <http://www.careereducation.columbia.edu/>. This resource is available to all students interested in locating employment.

## **FINANCING OPTIONS**

In addition to Columbia's commitment to meeting 100 percent of every student's demonstrated financial need, Columbia is committed to assisting families in meeting their family contributions. The following financing options are available to assist families in making educational costs more affordable.

## Monthly Payment Plan

Columbia offers an interest-free payment plan through which families may make ten equal monthly payments throughout the year rather than paying the semester's bill in full at the beginning of each term. The only cost associated with the plan is a nominal enrollment fee, and payments start in July.

## Parent Loans for Undergraduate Students (PLUS)

Through the federal PLUS loan program, parents may borrow for a child's educational expenses. Loans are made directly by the federal government. Under the federal PLUS program, parents may borrow up to the total cost of attendance less any other financial aid received. Parents need not demonstrate need to qualify; however, they must be citizens or permanent residents of the United States and must pass a standard credit check. A fee of up to 4 percent is deducted from the loan at the time that it is disbursed. Repayment begins sixty days after the second disbursement of the loan.

Families with questions about the details of these programs may contact the Office of Financial Aid and Educational Financing.

## HOW TO APPLY FOR FINANCIAL AID

In order to be considered for need-based institutional financial aid at any time during their four years of undergraduate study, students must apply for financial aid at the time they apply for admission. Exceptions may be granted only in the case of extenuating circumstances that result in a significant change in the family's financial situation. The student's name and Columbia ID number should be printed on all documents submitted to the Office of Financial Aid and Educational Financing. Financial aid applicants whose application materials are submitted after the published deadlines cannot be guaranteed Institutional financial aid. All Columbia application materials can be accessed through [www.studentaffairs.columbia.edu/finaid](http://www.studentaffairs.columbia.edu/finaid).

## College Scholarship Service (CSS) Profile Form

All financial aid applicants must register with CSS for the PROFILE Form by visiting CSS on-line. Applicants who register on-line should complete the CSS Profile on-line (requires a secure browser and credit card). All students must include the Columbia University Columbia College CSS code on their PROFILE Form.

CSS code for Columbia College: 2116

The deadlines to submit on-line are:

November 15: First-year early decision

March 1: First-year regular decision

April 20: Transfer applicants

May 5: Continuing students

## CSS NONCUSTODIAL PROFILE

Columbia believes that the principal responsibility for meeting educational costs belongs to the family and offers financial aid only to supplement the family's resources. If the student's natural parents are divorced or separated, Columbia required each parent to provide financial information as a part of the student's application for financial aid. The parent with whom the applicant lives most of the year should complete the PROFILE Form and the FAFSA. The noncustodial parent should submit an income tax return and the CSS Noncustodial Profile (online form provided as a link once the CSS Profile is submitted) to the financial aid office.

First-year and transfer applicants and continuing students should complete the CSS Noncustodial PROFILE. The deadlines for completing this form are:

November 15: First-year early decision candidates

March 1: First-year regular decision candidates

April 20: Transfer applicants

May 5: Continuing students

## Free Application for Federal Student Aid (FAFSA)

**URL:** <http://www.fasfa.ed.gov>

Students and their parents submitting the FAFSA on-line should request PIN numbers from the FAFSA website, so that they may complete the FAFSA with an on-line signature. FAFSA applicants without PIN numbers may print a signature page and mail it in to the FAFSA Processor. All on-line FAFSA applicants should wait for and print out the confirmation page, to ensure that their submission has been received.

All students must include the Columbia University Columbia College school code on the FAFSA form.

FAFSA code for Columbia College: 002707

Columbia recommends, if possible, waiting until after federal income tax returns have been completed before completing the FAFSA form, but these forms must be submitted no later than the following deadlines:

March 1: First-year regular and early decision candidates

April 20: Transfer applicants

May 5: Continuing students

## Federal Income Tax Returns

Signed copies of parent and student federal income tax returns, including W-2 forms and all schedules, are required for verification of the information reported on the PROFILE Form and FAFSA. The financial aid office strongly encourages families of first-year applicants to complete their federal income taxes in February. Once applicants have completed the CSS Profile they will receive an IDOC number with instructions for submitting tax documents directly from the College Board.

## BUSINESS/FARM INFORMATION

If the student or parents own all or part of a business, corporations, or partnership, or are farm tenants, a complete copy of the most recent business tax return (i.e. Form 1065, 1120, or 1120S) must be included with the tax documents sent to via the IDOC service. Sole proprietors must submit Schedule C.

The preferred deadlines for submission of all signed federal tax documents via the IDOC service are:

March 1: First-year regular decision candidates

April 20: Transfer applicants

## TAX WITHHOLDING FOR NONRESIDENT ALIEN SCHOLARSHIP AND FELLOWSHIP RECIPIENTS

United States tax law requires the University to withhold tax at the rate of 14 percent on scholarship and fellowship grants exceeding the cost of tuition, books, fees, and related classroom expenses, that are paid to nonresident aliens.

Certain countries have entered into tax treaties with the United States that may serve to reduce this rate of withholding. However, even when such a treaty applies, the student and the University must report the full amount of such excess to the Internal Revenue Service. If a student claims tax treaty benefits, he or she must also report this amount to his or her country of residence.

The International Students and Scholars Office (524 Riverside Drive; telephone 212-854-3587) has prepared a packet of tax information, which is available to students and is revised annually. The tax law is complex and may vary with regard to individual circumstances. Therefore, as the University is not in a position to offer individual tax advice, each student may also wish to consult the consulate of his or her country of residence or a qualified tax professional.

## SCHOLARSHIP FUNDS

The following listing of endowed scholarship funds are the cornerstone of Columbia College's need-blind and full-funding financial aid program. These funds have been generously donated by alumni, parents and friends of the College to provide an opportunity for students of rare talent who would otherwise be unable to afford the cost of a Columbia education. More than 40 percent of Columbia College students

receive a Columbia grant toward their demonstrated need and are thus eligible to be chosen to receive the honor of representing a designated scholarship. The commitment of alumni and loyal donors enables the college to maintain one of the most diverse and talented student bodies among our peer institutions.

Alumni interested in joining in the Columbia College Scholarship Program community should contact: Columbia College Donor Relations, Columbia Alumni Center, 622 West 113th Street, MC 4530, New York, NY 10025.

**FREDERICK F. AND HELEN ABDOO  
SCHOLARSHIP FUND**

(1998) Gifts of Brian, Jayma, and Lynda Abdo and friends.

**CHARLOTTE ACKERMAN SCHOLARSHIP  
FUND**

(2010) Gift of an anonymous donor.

**CARROLL ADAMS SCHOLARSHIP FUND**  
(1997) Gift of Laurie and Russell F. Warren, Class of 1962.

**MICHAEL ADDISON SCHOLARSHIP FUND**  
(1955) Gift of Viola G. Addison in memory of her husband, Michael Addison.

**EDWARD C. ADKINS MEMORIAL  
SCHOLARSHIP FUND**  
(2008) Gift of Philip J. Adkins, Class of 1980.

**JAMES HERMAN ALDRICH SCHOLARSHIP  
FUND and HERMAN ALDRICH EDSON  
SCHOLARSHIP FUND**  
(1913) Gift of James H. Aldrich, Class of 1863, in commemoration of the fiftieth anniversary of his graduation, and bequest of Mary Gertrude Edson Aldrich.

**WILLIAM ALPERN SCHOLARSHIP FUND**  
(1996) Gift of Mrs. Minette Alpern and Professor Barbara Alpern Engel.

**CECILE AND SEYMOUR ALPERT, M.D.  
SCHOLARSHIP FUND**  
(2006) Gift of Dr. and Mrs. Seymour Alpert, Class of 1939.

**ALAN J. ALTHEIMER SCHOLARSHIP FUND**  
(1999) Gift of Altheimer & Gray Law Firm, Albert Pick Jr. Fund, and the Jewish Students Scholarship Fund.

**GEORGE J. AMES/LAZARD FRERES  
SCHOLARSHIP FUND**  
(1996) Gift of Lazard Freres.

**ERICA L. AMSTERDAM FAMILY FUND**  
(2002) Gift of Mark L. Amsterdam, Class of 1966.

**CATHERINE AND DENIS ANDREUZZI  
SCHOLARSHIP FUND**  
(1999) Gift of Denis M. Andreuzzi, Class of 1953.

**ANONYMOUS SCHOLARSHIP FUND**  
(2008) Gift of an anonymous donor.

**ANONYMOUS SCHOLARSHIP FUND III IN  
COLUMBIA COLLEGE**

(1987) Gift of an anonymous donor.

**ANONYMOUS SCHOLARSHIP FUND IV IN  
COLUMBIA COLLEGE**

(2005) Gift of an anonymous donor.

**ANONYMOUS #241 COLUMBIA COLLEGE  
SCHOLARSHIP FUND**

(1992) Gift of an anonymous donor.

**ANONYMOUS 22076 SCHOLARSHIP FUND**  
(2008) Gift of an anonymous donor.

**ANONYMOUS 351942 SCHOLARSHIP FUND**  
(2008) Gift of an anonymous donor.

**ROONE P. ARLEDGE SCHOLARSHIP FUND**  
(1985) Gift of Roone P. Arledge, Class of 1952.

**NICHOLAS F. AND FRANCES N. ARTUSO  
SCHOLARSHIP FUND**  
(2006) Gift of Anthony Artuso, Class of 1980 in memory of his parents.

**CHARLES B. ASSIFF SCHOLARSHIP FUND**  
(2000) Gift of Matthew Jon Assiff, Class of 1989, and gifts of family and friends.

**ASTOR PRESIDENTIAL SCHOLARSHIP FUND**  
(1981) Gift of the Astor Foundation.

**A. JAMES AND VONA HOPKINS BACH  
SCHOLARSHIP**  
(1994) Gift of A. James Bach, Class of 1953.

**BAKER FAMILY SCHOLARSHIP FUND**  
(2004) Gift of Rebecca and Daniel Baker, Class of 1976.

**THOMAS GARY BAKER SCHOLARSHIP FUND**  
(1993) Gift of Jean M. Baker in memory of her son Gary Baker, Class of 1984.

**ADELLE PHYLLIS BALFUS SCHOLARSHIP  
FUND**  
(1978) Gift of Laurence E. Balfus, Class of 1955, and Roberta R. Balfus.

**ALFRED M. BARABAS MEMORIAL  
SCHOLARSHIP FUND**  
(1988) Gift of the family and friends of Alfred M. Barabas, Class of 1936.

**KYRA TIRANA BARRY AND DAVID BARRY  
SCHOLARSHIP FUND**  
(2009) Gift of David Barry, Class of 1987, and Kyra Tirana Barry, Class of 1987.

MICHAEL BARRY '89 SCHOLARSHIP FUND  
(2010) Gift of Michael Barry, Class of 1989.

FREDERIC D. BARSTOW SCHOLARSHIP FUND  
(1935) Bequest of William S. Barstow.

ANDREW AND AVERY BARTH SCHOLARSHIP FUND  
Gift of Avery and Andrew Barth, Class of 1983.

MILTON B. AND EDITH C. BASSON ENDOWMENT FUND  
(1987) Bequest of Milton B. Basson.

ROBERT BELKNAP SCHOLARSHIP FUND  
(2002) Gift of the Chisholm Foundation.

ROBERT L. BELKNAP SCHOLARSHIP FUND  
(1987) Gift of the Class of 1977 in honor of Robert L. Belknap

WILLIAM C. AND ESTHER HOFFMAN BELLER SCHOLARSHIP FUND  
(1983) Gift of Esther Hoffman Beller.

WILLIAM AITKEN BENSEL MEMORIAL ENDOWMENT  
(1975) Bequest of William Aitken Bensel.

ROBERT BERNE SCHOLARSHIP FUND  
(2005) Gift of Robert Berne, Class of 1960.

PINCUS BERNER MEMORIAL SCHOLARSHIP FUND  
(1992) Bequest of Rose Wohl Hofstadter.

ROBERT BERNOT '55 AND MORRIS LAMER FAMILY SCHOLARSHIP FUND IN HONOR OF SAMARA BERNOT MESHEL '92  
(1996) Gift of Robert Bernot, Class of 1955, and Morris Lamer in honor of Samara Bernot Meshel, Class of 1992.

YOGI BERRA SCHOLARSHIP FUND  
(1959) Gifts received from various Yogi Berra fans.

NORMAN B. BERRY SCHOLARSHIP FUND  
(2008) Bequest of Norman B. Berry.

THE BETHILL FAMILY SCHOLARSHIP FUND  
(2009) Gift of Charles Bethill, Class of 1969.

GIUSEPPE AND MARIA BISIO SCHOLARSHIP FUND  
(1998) Gift of Attilio Bisio, Class of 1952.

LEO BLITZ MEMORIAL SCHOLARSHIP FUND  
(1991) Gift of Steven M. Blitz, Class of 1962.

WILLARD AND ROBERTA BLOCK SCHOLARSHIP FUND  
(1999) Gift of Willard Block, Class of 1951, and Roberta Block.

MAXWELL A. BLOOMFIELD SCHOLARSHIP FUND  
(2002) Bequest of Maxwell Bloomfield.

ALEXANDER BODINI ENDOWED FINANCIAL AID FUND  
(2004) Gift of ACP Holdings, Inc.

PHILIP BONANNO SCHOLARSHIP FUND  
(1999) Gift of Philip P. Bonanno, Class of 1954.

HOWARD H. BORN SCHOLARSHIP FUND  
(1990) Bequest of Howard H. Born.

H. HUBER BOSCOWITZ SCHOLARSHIP FUND  
(1994) Bequest of H. Huber Boscowitz.

EDWARD M. BRATTER SCHOLARSHIP FUND  
(1984) Gifts of family and friends of Edward M. Bratter, Class of 1926.

MICHAEL O. BRAUN SCHOLARSHIP FUND  
(2006) Gift of Michael O. Braun, Class of 1970.

BREAD OF LIFE FOUNDATION SCHOLARSHIP  
(2002) Gift of Paul J. Grant, Class of 1965, and Kathleen G. Grant.

JESSICA LEE BRETT SCHOLARSHIP FUND  
(2008) Gift of James Brett and Patricia Brett.

LAURENCE AND MARION BREWER '38 CC SCHOLARSHIP FUND  
(2006) Gift of Laurence Brewer, Class of 1938, and Marion Brewer.

BRILLO-SONNINO FAMILY SCHOLARSHIP FUND  
(2009) Gift of Lyn Brillo and Mark. D. Sonnino, Class of 1982

DOROTHY R. BRODIN SCHOLARSHIP FUND FOR THE HUMANITIES  
(2007) Gift of Dorothy R. Brodin.

BRONIN FAMILY SCHOLARSHIP FUND  
(1996) Gift of Dr. Andrew Bronin, Class of 1969.

ROBERT R. BROOKHART MEMORIAL SCHOLARSHIP FUND  
(1991) Bequest of Robert R. Brookhart, Class of 1959, and gifts of family and friends of Robert R. Brookhart.

FRANK AND DEENIE BROSENS SCHOLARSHIP FUND  
(2006) Gift of the Frank Brosens and Deenie Brosens Foundation.

FREDERIC WALDEN BROWN MEMORIAL SCHOLARSHIP FUND  
(2005) Bequest of John H. Brown.

HAROLD BROWN SCHOLARSHIP FUND  
(1992) Gift of Dr. Harold Brown, Class of 1940, and friends and family of Harold Brown.

SAMUEL POTTER BROWN SCHOLARSHIP FUND  
(1998) Estate of Samuel P. Brown, Class of 1941.

CARL M. BRUKENFELD CLASS OF 1927 MEMORIAL SCHOLARSHIP FUND  
(1970) Gift of M. Ronald Brukenfeld.

CLARENCE BRUNER-SMITH SCHOLARSHIP FUND  
(2002) Bequest of Clarence Bruner-Smith, Class of 1925.

DR. MICHAEL S. BRUNO SCHOLARSHIP FUND  
(1992) Gift of Michael S. Bruno, Class of 1943.

DR. ELI BRYK SCHOLARSHIP FUND  
(1999) Gift of Eli Bryk, Class of 1978.

BRYNJOLFSSON FAMILY UNDERGRADUATE SCHOLARSHIP FUND  
(2007) Gift of John Brynjolfur Brynjolfsson, Class of 1986.

DR. ELI BRYK SCHOLARSHIP FUND  
(1999) Gift of Eli Bryk, Class of 1978.

BUCHMAN FAMILY SCHOLARSHIP FUND  
(1993) Gift of Stephen L. Buchman, Class of 1959.

IRVING AND GRACE BULMASH MEMORIAL SCHOLARSHIP FUND  
(1987) Gift of Jay and Gerald Bulmash.

J. GARY BURKHEAD SCHOLARSHIP FUND  
(1990) Gift of J. Gary Burkhead, Class of 1963.

DR. IRVIN J. BUSSING SCHOLARSHIP FUND  
(1995) Gift of Irvin Bussing, Class of 1922.

BENJAMIN J. BUTTENWIESER PRESIDENTIAL SCHOLARSHIP  
(1992) Gifts of Lionel I. Pincus and the Charles H. Revson Foundation.

CG SCHOLARSHIP FUND  
(2008) Gift of an anonymous donor.

JOHN T. CAHILL MEMORIAL SCHOLARSHIP FUND  
(1967) Gifts of various donors.

EDWARD F. CALESA SCHOLARSHIP FUND  
(1993) Gift of Edward F. Calesa, Class of 1963.

JOHN AND BETTY CARROLL MEMORIAL SCHOLARSHIP  
(2004) Gift of David S. Carroll, Class of 1976 and Barbara Bartik.

PROFESSOR JOHN P. CARTER SCHOLARSHIP FUND  
(2001) Bequest of Rachel H. Carter honoring her husband John P. Carter, Class of 1936.

EDWIN H. CASE MEMORIAL SCHOLARSHIP FUND  
(1994) Gifts of Stephen Case, Class of 1964 and others in memory of Edwin H. Case.

DOUGLAS A. CHADWICK JR. SCHOLARSHIP FUND  
(2004) Gift of Douglas A. Chadwick Jr. Class of 1961.

FRANK W. CHAMBERS SCHOLARSHIP FUND  
(1950) Gifts of various donors, in memory of Frank W. Chambers.

SOU CHAN SCHOLARSHIP FUND  
(1994) Gift of Sou Chan.

JOHN CHEE SCHOLARSHIP FUND  
(1988) Gift of John Chee, Class of 1968.

JEREMIAH AND YOLANDA CIANCIA FAMILY SCHOLARSHIP FUND  
(2008) Gift of Jeremiah and Yolanda Cincia.

RICHARD H. CIPOLLA MEMORIAL SCHOLARSHIP FUND  
(1981) Gift of Mr. and Mrs. John Klingenstein.

ROBERT CIRICILLO SCHOLARSHIP FUND  
(2004) Gift of Robert Ciricillo, Class of 1967.

JOHN J. CIRIGLIANO SCHOLARSHIP FUND  
(1987) Gift of John J. Cirigliano, Class of 1964.

TATJANA CIZEVSKA SCHOLARSHIP FUND  
(1986) Gift of Tatjana Cizevska.

CLASS OF 1914 COLLEGE AND ENGINEERING FUND  
(1969) Gifts of various donors in Class of 1914.

CLASS OF 1915 SCHOLARSHIP FUND  
(1950) Gifts of various donors in the Class of 1915.

CLASS OF 1916 COLLEGE AND ENGINEERING FUND  
(1947) Gifts of various donors in the Class of 1916.

CLASS OF 1916 COLLEGE SCHOLARSHIP FUND  
(1951) Gifts of various donors of the Class of 1916.

CLASS OF 1918 SCHOLARSHIP FUND  
(1948) Gifts of various donors in the Class of 1918.

CLASS OF 1918 50TH ANNIVERSARY FUND  
(1968) Gifts of various donors in the Class of 1918.

CLASS OF 1920 SCHOLARSHIP FUND  
(1983) Gifts of various donors in the Class of 1920.

CLASS OF 1921 SCHOLARSHIP FUND  
(1936) Gifts of various donors in the Class of 1921.

CLASS OF 1922 NATIONAL SCHOLARSHIP  
ENDOWMENT FUND  
(1950) Gifts of various donors in the Class of 1922.

CLASS OF 1924 SCHOLARSHIP FUND  
(1949) Gifts of various donors in the Class of 1924.

CLASS OF 1924 SCHOLARSHIP ROOM  
ENDOWMENT  
(1949) Gifts of various donors in the Class of 1924.

CLASS OF 1925 HERBERT E. HAWKES  
SCHOLARSHIP FUND  
(1987) Gifts of various donors in the Class of 1925.

CLASS OF 1926 DWIGHT C. MINER  
SCHOLARSHIP FUND  
(1973) Gifts of various donors including faculty, students, and alumni.

CLASS OF 1929 TENTH ANNIVERSARY FUND  
(1939) Gifts of various donors in the Class of 1929.

CLASS OF 1932 SCHOLARSHIP FUND  
(1982) Gifts of various donors in the Class of 1932.

CLASS OF 1933 SCHOLARSHIP FUND  
(1988) Gifts of various donors in the Class of 1933.

CLASS OF 1934 COLLEGE SCHOLARSHIP  
FUND  
(1986) Gifts of various donors in the Class of 1934.

CLASS OF 1936 SCHOLARSHIP FUND  
(1965) Gifts of various donors in the Class of 1936.

CLASS OF 1938 SCHOLARSHIP FUND  
(1967) Gifts of various donors in the Class of 1938.

CLASS OF 1942 SCHOLARSHIP FUND  
(1967) Gifts of various donors in the Class of 1942.

CLASS OF 1943 SCHOLARSHIP FUND  
(1976) Gifts of various donors in the class of 1943.

CLASS OF 1951 SCHOLARSHIP FUND  
(1996) Gifts of various donors in class of 1951.

CLASS OF 1952 ENDOWMENT FUND  
(1988) Gift of the Class of 1952 in commemoration of the thirty-fifth anniversary of their graduation.

COLUMBIA COLLEGE CLASS OF 1952  
SCHOLARSHIP FUND  
(2002) Gifts of various donors in the Class of 1952.

CLASS OF 1953 MICHAEL I. SOVERN  
SCHOLARSHIP FUND  
(1983) Gift of the Class of 1953.

CLASS OF 1955 COLLEGE SCHOLARSHIP  
FUND  
(1982) Gift of various donors in the Class of 1955.

CLASS OF 1956 COLLEGE SCHOLARSHIP  
FUND  
(1982) Gift of various donors in the Class of 1956.

CLASS OF 1958 PETER STUYVESANT  
SCHOLARSHIP FUND  
(1992) Gifts of David L. Londoner, Class of 1958, and Bernard W. Nussbaum, Class of 1958, and other members of the Class of 1958.

CLASS OF 1959 SCHOLARSHIP FUND  
(1992) Gift of various donors in the Class of 1959.

CLASS OF 1966 SCHOLARSHIP FUND  
(1986) Gifts of various donors in the Class of 1966.

CLASS OF 1968 SCHOLARSHIP FUND  
(1988) Gifts of various donors in the Class of 1968.

CLASS OF 1969 SCHOLARSHIP FUND  
(1991) Gift of the Class of 1969 in commemoration of the twentieth anniversary of their graduation.

MICHAEL J. CLEMENS SCHOLARSHIP FUND  
(1990) Bequest of Michael J. Clemens, Class of 1961.

ETHEL CLYDE SCHOLARSHIP FUND  
(1980) Bequest of Ethel Clyde.

DONN COFFEE MEMORIAL SCHOLARSHIP  
FUND  
(2005) Gift of Antoinette Coffee and Sue Coffee in memory of their father.

JOAN M. COHEN SCHOLARSHIP FUND  
(1988) Gift of Alan N. Cohen, Class of 1952, and Joan M. Cohen Foundation.

SANFORD M. COHEN SCHOLARSHIP FUND  
(1996) Gift of Sanford M. Cohen, Class of 1983.

PETER AND JOAN COHN SCHOLARSHIP FUND  
(2004) Gift of Joan and Peter Cohn, Class of 1958.

MAE AND HARRY COLE MEMORIAL SCHOLARSHIP FUND  
(1965) Bequest of Harry Dix Cole.

HENRY S. COLEMAN SCHOLARSHIP FUND  
(1990) Gift of Bradford R. Higgins, Class of 1974.

HENRY S. COLEMAN LEADERSHIP SCHOLARSHIP FUND  
(1994) Gift of Robert F. Coviello, Class of 1967, and family.

COLUMBIA COLLEGE ALUMNI ENDOWMENT FUND  
(1983) Gifts of various donors.

COLUMBIA COLLEGE SCHOLARSHIP AND FELLOWSHIP FUND  
Gifts of various donors.

COLUMBIA COLLEGE UNDERGRADUATE FUND  
Gifts of various donors.

COLUMBIA UNIVERSITY CLUB OF NEW ENGLAND SCHOLARSHIP FUND  
(1985) Gift of various members of the Columbia University Club of New England.

HARRIET WALLER CONKLIN/LILLIAN CHERNOK SABLE FUND  
(2010) Gift of David Sabel, Class of 1972 and Margaret Conklin.

COOK FAMILY FUND  
(2011) Gift of Michael L. Cook, Class of 1965.

CORNACCHIA FAMILY SCHOLARSHIP FUND  
(2010) Gift of Thomas Cornacchia, Class of 1985 and Goldman Sachs Charitable Gift Fund.

COROMILAS SCHOLARSHIP FUND  
(2010) Gift of James and Lynn Coromilas.

CHARLES K. COSSE MEMORIAL SCHOLARSHIP FUND  
(1975) Gift of Mrs. Anne L. Cosse in memory of her husband.

BERTHE M. COSTIKYAN SCHOLARSHIP FUND  
(1990) Gift of Andrew M. Costikyan, Class of 1943, and Edward N. Costikyan, Class of 1947.

CHARLES HALSTEAD COTTINGTON SCHOLARSHIP FUND  
(2002) Bequest of Marianne Cottingham, wife of Charles Halstead Cottingham.

LOUISE CRAIGMYLE SCHOLARSHIP FUND  
(1960) Gift of Louise Craigmyle.

FREDERIC M. AND MARY E. CURRAN CLASS OF 1919 SCHOLARSHIP FUND  
(1964) Bequest of Frederic M. and Mary E. Curran.

CHARLES ANDERSON DANA SCHOLARSHIP FUND  
(1988) Gift of David S. Dana, Class of 1953.

HORACE E. DAVENPORT FUND  
(1958) Gift of Horace E. Davenport.

ARTHUR M. DAVIS SCHOLARSHIP FUND  
(1989) Bequest of Arthur M. Davis, Class of 1924.

PIRI AND NATE DAVIS SCHOLARSHIP FUND  
(2005) Gift of Stacey and Eugene Davis, Class of 1975.

SARAH DAVIS SCHOLARSHIP FUND  
(1998) Gift of Hank Davis, Class of 1963.

JUDGE ARCHIE DAWSON MEMORIAL SCHOLARSHIP FUND  
(1999) Gift from the Estate of Barbara G. Smyth.

RAUL J. DE LOS REYES MEMORIAL SCHOLARSHIP FUND  
(2005) Gift of Richard Neil de los Reyes.

HERBERT A. DEANE SCHOLARSHIP FUND  
(1991) Bequest of Herbert A. Deane, Class of 1942, and gifts of friends.

THE DEBART SCHOLARSHIP FUND - COLUMBIA COLLEGE  
(2002) Gift of Richard deBart, Jr.

LEONARDO C. AND MARY M. DE MORELOS SCHOLARSHIP FUND  
(1999) Bequest of Leonardo C. De Morelos.

LELAND S. DENNING SCHOLARSHIP FUND  
(2005) Gift of Leland S. Denning, Class of 1939.

ROBERT STEVEN DENNING SCHOLARSHIP FUND  
(2008) Gift of Robert S. Denning, Class of 2006.

CARL W. DESCH SCHOLARSHIP IN MEMORY OF KATHARINE W. DESCH  
(1995) Gift of Carl W. Desch, Class of 1937.



WILLIAM AND IDA H. DEWAR FINANCIAL ASSISTANCE AND SCHOLARSHIP FUND (1988) Bequest of Ida H. Dewar.

EDWARD WILSON DEWILTON SCHOLARSHIP FUND (1974) Bequest of Rollo Linamore DeWilton.

SIDNEY R. AND ARTHUR W. DIAMOND SCHOLARSHIP FUND (1986) Gift of Sidney and Arthur Diamond, Class of 1925.

LEONARD DICKSON SCHOLARSHIP FUND (1962) Gifts of various donors of the Class of 1913.

WILLIAM A.S. DOLLARD AND BERNARD F. KELLEY SCHOLARSHIP FUND (2001) Bequest of William A.S. Dollard.

PAUL SEYMOUR DREUX SCHOLARSHIP FUND (1984) Bequest of Paul S. Dreux.

DRL FUND (2010) Gift of an anonymous donor.

AVRAM DRORI SCHOLARSHIP FUND (2009) Gift of Avram Drori, Class of 2004.

ELIZABETH AND DANIEL DWYER SCHOLARSHIP FUND (2010) Gift of Elizabeth Dwyer, Class of 1992 and Daniel Dwyer.

EDWARD MEAD EARLE SCHOLARSHIP FUND (1954) Bequest of Edward Mead Earle.

BERIL EDELMAN MEMORIAL SCHOLARSHIP FUND (1998) Gift of Joan Goody.

STANLEY EDELMAN SCHOLARSHIP (2000) Gift of Henry Nias Foundation.

DR. JAMES C. EGBERT AND LESTER D. EGBERT MEMORIAL SCHOLARSHIP FUND (1955) Gift of Lester D. Egbert in memory of his father, James C. Egbert.

JOHN S. AND SARAH STONE EHLINGER SCHOLARSHIP FUND (2009) Gift of Sarah Stone and John S. Ehlinger, Class of 1991.

ERIC EISNER SCHOLARSHIP FUND (2010) Gift of Eric Eisner, Class of 1970.

ABIGAIL ELBAUM SCHOLARSHIP FUND (2007) Gift of Abigail Elbaum, Class of 1992.

DAVID AND ALICE ENG FAMILY SCHOLARSHIP FUND (2007) Gift of Calvin Eng, Class of 1971, John Eng, Class of 1974, Catherine Eng, Class of 1976 and Eva Eng.

SOLTON ENGEL NATIONAL SCHOLARSHIP FUND (1950) Gift of Solton Engel.

JEREMY G. EPSTEIN SCHOLARSHIP FUND (2003) Gift of Jeremy G. Epstein, Class of 1967.

ESPOSITO-CRANDALL FAMILY SCHOLARSHIP FUND (2010) Gift of Michele A. Esposito, Class of 1996.

NEIL EXTER FAMILY SCHOLARSHIP FUND (2011) Gift of Neil and Diane Exter.

FALK WALLACE FAMILY SCHOLARSHIP (2010) Gift of Edward E. Wallace Jr., Class of 1971 and Pamela Falk.

HAMEN AND PHYLLIS FAN FAMILY SCHOLARSHIP FUND (2011) Gift of Hamen Shi Hoo and Phyllis Mei Wa Fan

GERALD FEINBERG MEMORIAL SCHOLARSHIP FUND (2007) Gift of Barbara Jean Feinberg.

PHILIP FELDMAN SCHOLARSHIP FUND (1958) Bequest of Philip Feldman.

SYLVIA FELLER AND LUCILLE KNIPE SCHOLARSHIP FUND (2000) Gift of Matthew W. Feller, Class of 1976.

FERGANG FAMILY SCHOLARSHIP FUND (2009) Gift of Donna and Yale M. Fergang, Class of 1987.

E. ALVIN AND ELAINE M. FIDANQUE SCHOLARSHIP FUND (1994) Bequest of E. Alvin Fidanque.

ANDREW L. FISHER SCHOLARSHIP FUND (2005) Gift of Phebe and Louis A. Goodman, Class of 1965.

FORD/EEOC ENDOWMENT SCHOLARSHIP FUND (2003) Gift of the Ford Motor Company.

SIDNEY FORSCH SCHOLARSHIP FUND (1965) Gift of Josephine E. Forsch in memory of her husband, Sidney Forsch, Class of 1906.

GARY S. FRAGIN SCHOLARSHIP FUND (1990) Gift of Gary S. Fragin, Class of 1969.

IAN FORBES FRASER SCHOLARSHIP FUND (1966) Bequest of Ian Forbes Fraser, Class of 1929.

JOHN AND MAY FRASER SCHOLARSHIP FUND (1966) Bequest of Ian Forbes Fraser, Class of 1929.

JUDGE JOHN JOSEPH FREEDMAN  
SCHOLARSHIP FUND

(1995) Bequest of Josephine A. Van Zindt in honor of her father.

DORIS AND JESSE FREIDIN SCHOLARSHIP  
FUND

(1987) Gift of John S. Freidin, Class of 1962, in memory of his parents.

ROBERT L. FRIEDMAN SCHOLARSHIP FUND  
(2010) Gift of Robert L. Friedman, Esq.,  
Class of 1964.

ALBERT W. FRIBOURG SCHOLARSHIP FUND  
(1993) Bequest of Albert W. Fribourg,  
Class of 1924.

A. ALAN FRIEDBERG SCHOLARSHIP FUND  
(1986) Gift of A. Alan Friedberg, Class  
of 1953.

LAWRENCE N. FRIEDLAND SCHOLARSHIP  
FUND

(1992) Gift of Lawrence N. Friedland,  
Class of 1947.

JACOB W. FRIEDMAN SCHOLARSHIP FUND  
(1996) Gift of Jacob W. Friedman, Class  
of 1933.

PHILIP FUSCO MEMORIAL SCHOLARSHIP  
FUND

(1991) Gifts of friends and relatives of  
Philip R. Fusco, Class of 1988.

GAGUINE SCHOLARSHIP FUND  
(1984) Gift of Benito Gaguine, Class of  
1932.

STUART GARCIA MEMORIAL SCHOLARSHIP  
FUND

(1987) Gifts of family and friends in  
memory of Stuart Garcia, Class of 1984.

DOUGLAS B. GARDNER SCHOLARSHIP FUND  
(2002) Gift of Neal Wolkoff, Class of  
1977.

LOU GEHRIG MEMORIAL SCHOLARSHIP  
FUND

(1958) Gift of Mel Allen and friends of  
Lou Gehrig.

GERMAN SOCIETY OF THE CITY OF NEW  
YORK SCHOLARSHIP FUND  
(2002) Gift of the German Society of the  
City of New York.

WILLIAM HENRY GIBSON SCHOLARSHIP  
FUND

(1927) Gift of Mrs. Honoro Gibson  
Pelton in memory of her father William  
Henry Gibson, Class of 1875.

ARTHUR A. GLADSTONE ENDOWED  
SCHOLARSHIP FUND

(2009) Bequest of Arthur A. Gladstone,  
Class of 1932.

JOSEPH E. GLASS JR. SCHOLARSHIP FUND  
(1996) Gifts of Chris Tahbaz, Class of  
1986, other members of the Class of  
1986, and other friends, in memory of  
Joseph E. Glass, Class of 1986.

GM/EEOC ENDOWED SCHOLARSHIP FUND  
(1991) Gift of General Motors/EEOC  
Endowed Scholarship Program.

CHARLES N. AND JANE GOLDMAN  
SCHOLARSHIP FUND  
(1995) Gift of Charles N. Goldman,  
Class of 1953, and Jane B. Goldman.

ABRAHAM AND LEE GOLDEN SCHOLARSHIP  
FUND

(2011) Gift of Bruce Golden, Class of  
1981 and Michele Mercer.

GOLDSCHMIDT FAMILY SCHOLARSHIP  
(2010) Gift of Lawrence E.  
Goldschmidt, Class of 1964 and Beatrice  
C. Goldschmidt.

ERIC AND TAMAR GOLDSTEIN  
SCHOLARSHIP FUND

(2006) Gift of Eric S. Goldstein, Class of  
1980.

CARTER H. GOLEMBE SCHOLARSHIP FUND  
(1995) Gifts of friends of Carter H.  
Golembe, Class of 1945.

JOHN P. GOMMES SCHOLARSHIP FUND  
(2011) Gift of Thomas D. Gommès,  
Esq., Class of 1998.

EMANUEL GOODMAN SCHOLARSHIP FUND  
(1989) Bequest of Emanuel Goodman.

MAURICE AND SARA GOODMAN  
SCHOLARSHIP FUND  
(1988) Gift of Maurice Goodman.

ALAN L. GORNICK SCHOLARSHIP FUND  
(1993) Gift of Alan L. Gornick, Class of  
1935.

K. IVAN F. GOTHNER SCHOLARSHIP FUND  
(2005) Gift of K. Ivan Gothner, Class of  
1980.

JULIUS Y. GRAFF SCHOLARSHIP FUND  
(1997) Gift of Robert J. Krane, Class of  
1963.

GREATER NEW YORK MUTUAL INSURANCE  
COMPANY FUND

(1967) Gift of the Greater New York  
Mutual Insurance Company.

MATTHEW GREER SCHOLARSHIP FUND  
(2009) Gift of Matthew Greer, Class of  
2000.

GEOFFREY E. GROSSMAN SCHOLARSHIP  
FUND

(2007) Gift of the Grossman Family.

**MATTHEW C. GROSSMAN SCHOLARSHIP FUND**

(2007) Gift of the Grossman Family.

**SHARON AND PETER GROSSMAN FAMILY SCHOLARSHIP**

(2005) Gift of Sharon and Peter Grossman, Class of 1979

**PETER GRUENBERGER FAMILY SCHOLARSHIP FUND**

(2000) Gift of Peter Gruenberger, Class of 1958.

**WALTER GUENSCH FUND FOR COLUMBIA COLLEGE**

(1995) Gift of Walter A. Guensch M.D., Class of 1936.

**LEE AND ELIZABETH GUITTAR SCHOLARSHIP FUND**

(1996) Gift of Lee J. Guittar, Class of 1953.

**H. HAROLD GUMM AND ALBERT VON TILZER SCHOLARSHIP FUND**

(1998) Bequest of H. Harold Gumm.

**LAWRENCE A. GUSSMAN ENDOWED SCHOLARSHIP FUND**

(1986) Gift of Lawrence A. Gussman, Class of 1937.

**SEWARD HENRY HALL SCHOLARSHIP FUND**

(2001) Gift of the Estate of Seward Henry Hall, Class of 1937.

**ALEXANDER HAMILTON SCHOLARSHIP FUND**

(2011) Gift of Peter N. Hiebert, Class of 1977.

**GEORGE HAMMOND SCHOLARSHIP FUND AT COLUMBIA COLLEGE**

(2004) Bequest of George Hammond, Class of 1928.

**JINDUK HAN AND FAMILY SCHOLARSHIP FUND**

(2011) Gift of Jinduk Ham, Class of 1985.

**ELLEN KING HAND MEMORIAL FUND**

(1941) Bequest of Oliver Kane Hand in memory of his mother.

**JAMES RENWICK HARRISON SCHOLARSHIP FUND**

(1936) Bequest of James Renwick Harrison, Class of 1917.

**PROFESSOR C. LOWELL HARRISS SCHOLARSHIP FUND**

(1988) Gift of Lowell Harriss, Class of 1968, in honor of his father.

**LAWRENCE S. HARTE SCHOLARSHIP FUND**

(1996) Gift of Lawrence S. Harte, Class of 1953.

**PETER AND HILARY HATCH SCHOLARSHIP FUND**

(2008) Gift of Hilary Hatch, Class of 1992, and Peter Hatch, Class of 1992.

**DEAN HERBERT E. HAWKES MEMORIAL FUND**

(1943) Gifts of various donors.

**CHARLES HAYDEN MEMORIAL SCHOLARSHIP ENDOWMENT FUND**

(1945) Gift of the Trustees of the Charles Hayden Foundation.

**WILLIAM C. HEFFERNAN SCHOLARSHIP FUND**

(1992) Gift of William C. Heffernan, Class of 1968.

**MURRAY AND MICKEY HERMAN SCHOLARSHIP FUND**

(1987) Gift of Paul Herman, Class of 1958, in memory of his parents.

**STEPHEN A. HERMIDES SCHOLARSHIP FUND**

(1982) Bequest of Stephen A. Hermides.

**RICHARD HERPERS MEMORIAL SCHOLARSHIP FUND**

(1962) Gift of Mrs. Henry Herpers, Sr, in honor of her son.

**OREN C. HERWITZ 1930 MEMORIAL ENDOWED SCHOLARSHIP FUND**

(2009) Bequest of Oren C. Herwitz.

**ANDREW L. HERZ SCHOLARSHIP FUND**

(1992) Gift of Andrew L. Herz, Class of 1968.

**ROBERT IRWIN HERZ MEMORIAL SCHOLARSHIP FUND**

(1990) Gift of family and friends of Robert I. Herz.

**ABRAM S. HEWITT SCHOLARSHIP FUND**

(1953) Gift of Norvin H. Green, Class of 1919.

**PROFESSOR GEORGE W. HIBBITT MEMORIAL SCHOLARSHIP FUND**

(1966) Gift of Thomas E. Bratter and others.

**DAVID AND NANCY HILLIS FAMILY SCHOLARSHIP FUND**

(1995) Gift of L. David, Class of 1967, and Nancy Hillis.

**PATRICIA ELLEN HIRSCH SCHOLARSHIP FUND**

(1977) Gift of family and friends in memory of Patricia Ellen Hirsch.

**CHARLES F. HOELZER JR. MEMORIAL SCHOLARSHIP FUND**

(1980) Gifts of various donors in memory of Charles F. Hoelzer Jr., Class of 1942.

ROBERTA L. AND JOEL S. HOFFMAN  
SCHOLARSHIP FUND  
(1996) Gift of Joel S. Hoffman, Class of 1967.

LOUISE HOGAN FUND  
(1958) Bequest of Louise Hogan.

JOHAN JØRGEN HOLST SCHOLARSHIP FUND  
(1995) Gift of the American  
Scandinavian Foundation.

HONG KONG ALUMNI ASSOCIATION  
SCHOLARSHIP FUND  
(1995) Gift of Columbia University  
Alumni Association (Hong Kong)  
Limited.

JAMES T. HORN SCHOLARSHIP FUND  
(1935) Gift of Sarah L. Horn and Mary  
T. Horn.

DAVID H. HOROWITZ SCHOLARSHIP FUND  
(1994) Gift of David H. Horowitz, Class  
of 1948.

ELISSA HOROWITZ SCHOLARSHIP FUND  
(2004) Gift of Benjamin Horowitz, Class  
of 1988.

FELICIA AND BEN HOROWITZ  
SCHOLARSHIP FUND  
(2010) Gift of Benjamin Horowitz, Class  
of 1988.

LIBBY HOROWITZ SCHOLARSHIP FUND  
(2000) Gift of Donald J. Horowitz, Class  
of 1956, and Lynda M. Horowitz.

RUSSELL C. AND MELONEE A.R. HOROWITZ  
SCHOLARSHIP  
(2003) Gift of Russell C. Horowitz,  
Class of 1988, and Melonee A.  
Horowitz.

CHARLES EUGENE HUBER JR. M.D.  
SCHOLARSHIP FUND  
(1970) Bequest of Francis D. Huber

FREDERICK W. HUBER SCHOLARSHIP FUND  
(1961) Bequest of Frederick W. Huber.

JOHN L. HUEMER SCHOLARSHIP FUND  
(2009) Gift of the Estate of Kathleen  
Watt Huemer.

MICHAEL AND BETH HUGHES FAMILY  
ENDOWED SCHOLARSHIP FUND  
(2007) Gift of Michael and Beth  
Hughes.

HUMANITIES SCHOLARSHIP FUND IN  
HONOR OF JACQUES BARZUN  
(1987) Gift of Vincent A. Carrozza, in  
honor of Jacques Barzun.

ALLEN I. HYMAN SCHOLARSHIP FUND  
(2005) Gift of Allen I. Hyman, Class of  
1955.

ANDREW HYMAN AND MOLLY CHREIN  
SCHOLARSHIP FUND  
(2006) Gift of Andrew Hyman, Class of  
1988.

HELEN K. IKELER SCHOLARSHIP FUND  
(1996) Bequest of Helen K. Ikeler.

DR. ANTHONY M. IMPARATO, M.D.  
SCHOLARSHIP FUND  
(1993) Gift of Dr. Anthony M. Imparato,  
Class of 1943.

ORRIN C. ISBELL FUND  
(1989) Bequest of Emily D. Isbell.

MARTIN D. JACOBS MEMORIAL FUND  
(1989) Gift of Stephen Jacobs, Class of  
1975, and friends.

HOWARD I. JACOBY PRESIDENTIAL  
SCHOLARSHIP FUND  
(1981) Bequest of Jacob Jacoby made in  
memory of his son, Howard I. Jacoby.

JAFFE FAMILY SCHOLARSHIP FUND  
(1988) Gift of Henry Jaffe, Class of  
1927, in honor of Rebecca Jaffe, Class  
of 1988.

GEORGE M. JAFFIN SCHOLARSHIP FUND  
(1985) Gift of George M. Jaffin, Class of  
1924.

LANCY C. JEN SCHOLARSHIP FUND  
(2007) Gift of the Pei-Ling Charitable  
Trust.

JM SCHOLARSHIP FUND  
(2009) Gift of an anonymous donor.

CLARENCE C. JOCHUM SCHOLARSHIP FUND  
(1999) Gift of Kim Plumridge.

FREDERICK R. JOHNSON FUND  
(1961) Gift of the Estate of Richard F.  
Hansen.

RICK AND LEE JOHNSON MEMORIAL  
SCHOLARSHIP FUND  
(1990) Gift of Rick Johnson, Class of  
1971.

MIKE JUPKA JR. MEMORIAL SCHOLARSHIP  
FUND  
(2000) Gift of Ann Jupka and various  
donors.

THEODORE KAHAN SCHOLARSHIP FUND  
(1993) Gift of Robert L. Kahan, Class of  
1969.

KAHN FAMILY SCHOLARSHIP FUND  
(1999) Gift of Alan R. Kahn, Class of  
1959.

PROCTOR WILLIAM E. KAHN SCHOLARSHIP  
FUND  
(1986) Gifts of family and friends of  
William E. Kahn.

## KAISER FAMILY SCHOLARSHIP

(2010) Gift of Michelle Estilo Kaiser, Class of 1987 and Michael Guenther Kaier.

## SANDRA AND MICHAEL KAMEN SCHOLARSHIP FUND

(2011) Gift of Michael Kamen, Class of 1966.

## VICTOR M. KAMINSKI III MEMORIAL SCHOLARSHIP FUND

(2002) Gift of various donors.

## LAMONT AND LEAH KAPLAN SCHOLARSHIP FUND

(1984) Gift of Martin S. Kaplan, Class of 1961, in honor of his parents.

## ROBERT AND SHIRLEY KAPLAN AND JOSEPH AND HELEN KOHN SCHOLARSHIP FUND

(2007) Gift of Ruth and Arthur Kohn, Class of 1984.

## RAVI KAPUR MEMORIAL SCHOLARSHIP FUND

(1982) Gift of family and friends of Ravi Kapur.

## JUDY AND JEANETTE KATEMAN MEMORIAL SCHOLARSHIP FUND

(1987) Gift of Paul R. Kateman, Class of 1964, in memory of Judy and Jeanette Kateman.

## RALPH KEEN SCHOLARSHIP FUND

(2001) Gift of Ralph Keen, Class of 1979, and Mary Keen.

## ELWOOD WADSWORTH KEMP JR. COLUMBIA COLLEGE CLASS OF 1919 MEMORIAL SCHOLARSHIP FUND

(1990) Bequest of Morris Kemp, Class of 1924.

## GRACE BEACHEY KEMPER FUND

(1962) Bequest of Grace Beachey Kemper.

## SIGMUND MARSHALL KEMPNER SCHOLARSHIP FUND

(1980) Gifts from family and friends in honor of Sigmund Marshall Kempner.

## MOSSETTE AND HENRI KEYZER-ANDRE SCHOLARSHIP FUND

(1986) Gift of Mossette and Henri Keyzer-Andre.

## SEILAI KHOO SCHOLARSHIP FUND

(2001) Gifts of Solomon Gayle, Class of 1985, Yeng Meng Khoo, family and friends in memory of Seilai Khoo, Class of 1986.

## THE MARK AND ANLA CHENG KINGDON FUND

(2005) Gift of Mark Kingdon, Class of 1971 and Anla Cheng Kingdon.

## GRAYSON KIRK SCHOLARSHIP FUND

(1982) Gift of various donors in honor of Dr. Grayson Kirk.

## JOHN KLUGE PRESIDENTIAL SCHOLARSHIP FUND

(1987) Gift of John Kluge, Class of 1937.

## JEFFREY D. KNOWLES SCHOLARSHIP

(2011) Gift of Jeffrey D. Knowles, Class of 1971.

## LAWRENCE AND RUTH KOBRIN SCHOLARSHIP FUND

(1993) Gift of Lawrence A. Kobrin, Class of 1954.

## DR. RUTH M. KOCH SCHOLARSHIP FUND

(2006) Gift of Ruth M. Koch.

## HAROLD KORZENIK SCHOLARSHIP FUND

(1985) Gift of the Harold Korzenik Fund, Inc.

## HAROLD AND ROSE KOVNER SCHOLARSHIP FUND

(2003) Gift of Rose Kovner in memory of her husband, Harold Kovner, Class of 1923.

## DAVID H. KRAFT FAMILY SCHOLARSHIP FUND

(1995) Gift of Gilman Kraft, Class of 1947.

## ROBERT K. KRAFT FAMILY SCHOLARSHIP FUND

(1986) Gift of Robert K. Kraft, Class of 1963.

## KRAMER ENDOWED SCHOLARSHIP FUND

(1965) Gift of the Kramer Foundation.

## KRISBERG FAMILY SCHOLARSHIP

(2006) Gift of Brian C. Krisberg, Class of 1981.

## JOSEPH WOOD KRUTCH SCHOLARSHIP FUND

(1974) Gift of Ms. Marcelle L. Krutch.

## RICK KURNIT AND DIANE KATZIN SCHOLARSHIP FUND

(2009) Gift Diane Katzin and Richard Kurnit, Class of 1972.

## KUNG AND YEUNG SCHOLARSHIP FUND

(2011) Gift of Kenneth and Ann Kung.

## PAUL SAMUEL KURZWEIL SCHOLARSHIP FUNDS

(1996) Gift of Harvey Kurzweil, Class of 1966.

## LAACU SCHOLARSHIP FUND

(2009) Gift of various alumni and friends

PREM LACHMAN SCHOLARSHIP FUND  
(2009) Gift of Prem Lachman, Class of 1982.

NORMAN JOSEPH LANDAU SCHOLARSHIP FUND  
(1999) Gifts of Lisa Landau, Class of 1989, and Marjorie Landau Hirshberg, Class of 1989 Parent, in memory of Norman J. Landau.

JERRY G. LANDAUER SCHOLARSHIP FUND  
(1981) Gift of family and friends and bequest of Jerry G. Landauer.

PATRICIA LANDMAN AND DANIELLE LANDMAN MEMORIAL FUND  
(2007) Gift of Shirley Landman.

DENNIS H. AND SUSAN F. LANGER SCHOLARSHIP FUND  
(1996) Gift of Dennis H. Langer, Class of 1971, and Susan F. Langer.

DENNIS H. AND WILLIAM A.F. LANGER SCHOLARSHIP  
(2003) Gift of Dennis H. Langer, Class of 1971, and Susan F. Langer.

GEORGE R. LANYI MEMORIAL FOUNDATION ENDOWMENT  
(1992) Gift of Andrew A. Lanyi, in memory of his son, George R. Lanyi.

HUBERT GRANT LARSON PRESIDENTIAL SCHOLARSHIP FUND  
(1983) Gift of Hubert Grant Larson.

PETER I. B. LAVAN SCHOLARSHIP FUND  
(1983) Gift of Peter I.B. Lavan, Class of 1915.

THE GEORGE AND EVA KOONS LAVOLIS SCHOLARSHIP FUND IN MEMORY OF EVE'S PARENTS BY DR. MARTIN RAYMOND AND EVE LEWELLIS LEBOWITZ  
(1995) Gift of Eve and Martin Lebowitz.

PAUL AND LAZARE SCHOLARSHIP FUND  
(1987) Gift of Paul Lazare, Class of 1936.

HARRY R. LEA SCHOLARSHIP FUND  
(1993) Bequest of Harry R. Lea, Class of 1925.

LEE FAMILY SCHOLARSHIP FUND  
(2008) Gift of Hee-Jae and Jay-Hyun Lee.

FRANK LAMPSON LEE SCHOLARSHIP FUND  
(1987) Gift of Frank H. Lee in memory of his son, Frank Lampson Lee, Class of 1950.

GRANVILLE WHEELER LEE SR., CLASS OF 1931, MEMORIAL SCHOLARSHIP FUND  
(1998) Gift of Granville Wheeler Lee Sr., Class of 1931 and Mildred K. Lee.

KAI-FU AND SHEN-LING LEE SCHOLARSHIP FUND  
(2008) Gift of Shen Ling and Kai-Fu Lee, Class of 1983.

K.C. LEE SCHOLARSHIP FUND  
(2009) Gift of Rupert X. Li, Class of 1984.

ERWIN H. LEIWANT SCHOLARSHIP FUND  
(1993) Gift of Mrs. Irene Leiwant made in tribute of her late husband, Erwin H. Leiwant, Class of 1941.

HAROLD LEVENTHAL SCHOLARSHIP FUND  
(2010) Gift of Peter Buscemi, Class of 1969 and Judith Miller.

LEVINE FAMILY SCHOLARSHIP FUND  
(2004) Gift of an anonymous donor.

LEONARD LEVINE SCHOLARSHIP FUND  
(1984) Gift of Rashelle Levine.

JOHN TAYLOR LEWIS SCHOLARSHIP FUND  
(1979) Gift of friends of John Lewis.

SALLY LIPPER MEMORIAL SCHOLARSHIP IN COLUMBIA UNIVERSITY  
(1993) Gift of Evelyn and Kenneth Lipper, Class of 1962.

LOU LITTLE SCHOLARSHIP FUND  
(1979) Gifts from the friends of Lou Little.

CATHERINE LIVINGSTON AND FRANK GORDON SCHOLARSHIP FUND  
(1998) Bequest of James L. Gordon.

HARRY LEON LOBSENZ SCHOLARSHIP FUND  
(1962) Gift of the Harry Lobsenz Foundation.

DANIEL S. LOEB SCHOLARSHIP FUND  
(2010) Gift of Daniel Loeb, Class of 1983 and Margaret Loeb.

JAMES J. AND JOVIN C. LOMBARDO SCHOLARSHIP FUND  
(1996) Gift of James Lombardo, Class of 1971 and Jovin Lombardo, Class of 1961.

FRANK AND VICTOR LOPEZ-BALBOA SCHOLARSHIP FUND  
(2006) Gift of Frank, Class of 1982 and Victor Lopez-Balboa, Class of 1982

BENJAMIN B. AND BETSY A. LOPATA SCHOLARSHIP FUND  
(2000) Gift of Benjamin B. Lopata, Class of 1972 and Betsy A. Lopata.

LORENZO FAMILY SCHOLARSHIP FUND  
(1995) Gift of Francisco A. Lorenzo, Class of 1961.

OLEGARIO LORENZO MEMORIAL SCHOLARSHIP FUND  
(1986) Gift of Francisco Lorenzo, Class of 1961, in memory of his father.

IRWIN AND MARIANETTE L. LOWELL SCHOLARSHIP FUND  
(2004) Gift of the Estate of Irwin E. Lowell.

STANLEY B. AND JUDITH M. LUBMAN SCHOLARSHIP FUND  
(1998) Gift of Stanley B. Lubman, Class of 1955, and Judith M. Lubman.

A. LEONARD LUHBY CLASS OF 1938 SCHOLARSHIP FUND  
(2004) Gift of Sara K. Luhby.

LUI FAMILY SCHOLARSHIP  
(2011) Gift of Frederick Lui.

LYON STUDENT SCHOLARSHIP FUND FOR COLUMBIA COLLEGE  
(1963) Bequest of John H.H. Lyon.

THOMAS MACIOCE SCHOLARSHIP FUND  
(1986) Gift of Edwin W. Rickert and others in honor of Thomas Macioce.

M & BG SCHOLARSHIP FUND  
(2006) Gift of an anonymous donor.

MALIN-SERLE FAMILY SCHOLARSHIP FUND  
(2011) Gift of Ira B. Malin, Class of 1975 and Janet B. Serle, M.D.

DONALD MARGOLIS SCHOLARSHIP FUND  
(1992) Gift of Donald L. Margolis, Class of 1963.

JAMES A. AND DONALD L. MARGOLIS SCHOLARSHIP FUND  
(1992) Gift of Donald L. Margolis, Class of 1963.

HERBERT MARK '42 SCHOLARSHIP FUND  
(2007) Gift of family and friends in memory of Herbert Mark, Class of 1942.

MICHAEL E. MARTOCCI SCHOLARSHIP FUND  
(2000) Bequest of Helen Martocci.

THE AARON LEO MAYER SCHOLARSHIP FUND  
(2007) Gift of Lillian C. Mayer.

BARBARA MAZUR SCHOLARSHIP FUND  
(2000) Gift of Marc Mazur, Class of 1981, and Ilana Mazur.

LOUIS K. MCCLYMONDS SCHOLARSHIP FUND  
(1926) Bequest of Annie M. McClymonds.

DOUGLAS H. MCCORKINDALE SCHOLARSHIP FUND  
(1987) Gift of Douglas H. McCorkindale, Class of 1961.

PAUL C. MCCORMICK SCHOLARSHIP FUND  
(2010) Gift of Paul C. McCormick, M.D., Class of 1978.

WILLIAM MCDABID SCHOLARSHIP FUND  
(2008) Gift of William H. McDavid, Class of 1988.

PATRICK AND YVETTE MCGARRIGLE COLLEGE SCHOLARSHIP  
(2011) Gift of Patrick McGarrigle, Class of 1986.

SPENCER J. MCGRADY SCHOLARSHIP FUND  
(1994) Gift of Spencer J. McGrady, Class of 1939.

RAPHAEL MEISELS SCHOLARSHIP FUND  
(1985) Gift of Raphael Meisels, Class of 1921.

JAMES L. MELCHER AND DR. APRIL ANN BENASICH SCHOLARSHIP  
(2007) Gift of James L. Melcher.

SAMUEL AND BLANCHE MENDELSON MEMORIAL SCHOLARSHIP FUND  
(1983) Gift of Laurans A. Mendelson, Class of 1960.

ASENATH KENYON AND DUNCAN MERRIWETHER SCHOLARSHIP FUND  
(1991) Bequest of Duncan Merriwether, Class of 1928.

LILLIAN S. MICHAELSON SCHOLARSHIP FUND  
(1987) Gift of Alvin S. Michaelson, Class of 1960.

JOSEPH S. MIGHTOM SCHOLARSHIP FUND  
(1948) Bequest of Joseph S. Michtom.

IRA L. MILLER FAMILY SCHOLARSHIP FUND  
(2004) Gift of Edward J. Miller, Class of 1973, Howard Miller, Class of 1976, Robert J. Miller, Class of 1976 and Stephen Miller, Class of 1969.

MILLER-HEDIN FAMILY SCHOLARSHIP  
(2008) Gift of Evan Miller, Class of 1978.

MAX MILLER SCHOLARSHIP FUND  
(1991) Gift of Warren R. Stern, Class of 1974.

MEREDITH G. MILSTEIN SCHOLARSHIP FUND  
(2011) Gift of Meredith G. Milstein, Class of 2009.

PHILIP L. AND CHERYL S. MILSTEIN SCHOLARSHIP FUND  
(1987) Gift of Philip L. Milstein, Class of 1971, and Cheryl S. Milstein.

SEYMOUR MILSTEIN SCHOLARSHIP FUND  
(2001) Gift of Philip Milstein, Class of 1971.

THOMAS AND JOY MISTELE SCHOLARSHIP FUND  
(2008) Gift of Thomas M. and C. Joy Mistele, Class of 2010.

JOHN P. MITCHEL MEMORIAL FUND  
(1940) Bequest of Mary Purroy Mitchel.

JOHN K. MLADINOV SCHOLARSHIP FUND  
(1994) Gift of Barbara Pratt Mladinov.

FREDERICK B. MONELL JR. AND HELEN B. MONELL SCHOLARSHIP FUND  
(1983) Gift of Helen B. Monell.

ELIZABETH WILMAN MONTGOMERY SCHOLARSHIP FUND  
(1986) Gift of William E. Collin.

DR. ROYAL M. MONTGOMERY SCHOLARSHIP FUND  
(1992) Gift of Maxine C. Montgomery.

SIDNEY MORGENBESSER MEMORIAL FUND  
(2005) Gifts of various friends and family of Professor Sidney Morgenbesser.

JAMES P. MORRISON  
(1973) Gift of James P. Morrison.

THOMAS L. MOUNT SCHOLARSHIP FUND  
(2009) Bequest of Thomas L. Mount, Class of 1930.

MUKHERJEE-RUSSELL MEMORIAL FUND  
(2010) Gift of Tanmoy Mukherjee, Class of 1986.

GLADYS H. MUÑOZ SCHOLARSHIP FUND  
(2000) Gift of Carlos R. Muñoz, Class of 1957.

STAN MUSIAL SCHOLARSHIP  
(1962) Gift of Alfred J. Barabas.

THOMAS A. NACLERIO SCHOLARSHIP FUND  
(2001) Bequest of Thomas A. Naclerio, Class of 1933.

ALI NAMVAR SCHOLARSHIP FUND  
(2011) Gift of Ali Namvar, Class of 1991.

JON NARCUS SCHOLARSHIP FUND  
(2004) Gift of various donors from the Class of 1962.

AMERICO C. NARDIS SCHOLARSHIP FUND  
(2008) Gift of Americo Nardis, Class of 1998.

THOMAS B. NEFF SCHOLARSHIP FUND  
(1969) Gift of Thomas B. Neff, Class of 1951.

JEROME A. NEWMAN SCHOLARSHIP FUND  
(1956) Gift of Jerome A. Newman, Class of 1917.

NG TENG FONG SCHOLARSHIP  
(2011) Gift of Daryl Win-Kong Ng, Class of 2001.

ROBERT NG SCHOLARSHIP FUND  
(2005) Gift of Robert and Saw-Kheng Ng, Class of 2001 Parent.

LOUIS AND MARINA NICHOLAS SCHOLARSHIP FUND  
(2000) Gift of Socrates Nicholas, Class of 1956.

9/11 MEMORIAL FUND SCHOLARSHIP  
(2002) Gifts of Robert Berne, Class of 1960, Mark E. Kingdon, Class of 1971, Philip L. Milstein, Class of 1971, Richard E. Witten, Class of 1975, and other donors, in memory of Richard Aronow '75, Robert Murach '78, John Benedict Fiorito '82, Seilai Khoo '86, Brian P. Williams '94, Joseph Della Pietra '99, Brooke Alexandra Jackman '00, and Tyler Ugolyn '01.

ADRIANE NOCCO SCHOLARSHIP FUND  
(2010) Gift of Frank Nocco, Esq., Class of 1985.

DAVID NORR SCHOLARSHIP FUND  
(1982) Gift of David Norr, Class of 1943.

NORRY FAMILY SCHOLARSHIP FUND FOR THE COLLEGE  
(1986) Gift of Neil Norry, Class of 1959.

DOROTHY O'BRIEN AND FERDINAND J. SIEGHARDT SCHOLARSHIP FUND  
(1959) Bequest of Ferdinand J. Sieghardt.

EUGENE V. OEHLERS SCHOLARSHIP FUND  
(1995) Bequest of Josephine M. Yacavone honoring Eugene V. Oehlers, Class of 1920.

ALFRED OGDEN SCHOLARSHIP FUND  
(1990) Bequest of Alfred Oden.

SANDRA A. AND LEWIS P. (CLASS OF 1936) OGLE SCHOLARSHIP FUND  
(2004) Gift of Lewis P. and Sandra Ogle.

GIDEON H. OPPENHEIMER SCHOLARSHIP FUND  
(1971) Bequest of Gideon H. Oppenheimer.

GEORGE M. ORPHANOS SCHOLARSHIP FUND  
(2007) Gift of George M. Orphanos, Class of 1959.

BLANCHE WITTES OSHEROV SCHOLARSHIP FUND  
(2004) Gift of Blanche Wittes Oshero.

OZ FAMILY SCHOLARSHIP FUND  
(2009) Gift of Mehmet and Lisa Oz.



## OZALTIN FAMILY SCHOLARSHIP

(2010) Gift of Nuri Ozaltin.

## PACKER-BAYLISS SCHOLARS

(2001) Gift of Jerome and Marie Packer.

STELIOS AND ESPERANZA PAPADOPOULOS  
SCHOLARSHIP FUND

(2005) Gift of Stelios and Esperanza Papadopoulos.

EMANUEL M. PAPPER AND PATRICIA M.  
PAPPER SCHOLARSHIP FUND

(2003) Gift of Estate of Emanuel M. Papper, Class of 1935.

## MAX PAPPER SCHOLARSHIP FUND

(1961) Gift of Mrs. Lillian M. Jaffe, Dr. Emanuel M. Papper, Class of 1935, and Dr. Salomon Papper.

## VERA PARIS SCHOLARSHIP FUND

(2006) Bequest from Vera Paris.

JOHN AND MINNIE PARKER NATIONAL  
SCHOLARSHIP FUND

(1966) Gift of Minnie Parker Charitable Trust.

HERBERT AND JEANETTE PEARL  
SCHOLARSHIP FUND

(1997) Gift of Richard E. Pearl, Class of 1969.

## ROBERT I. PEARLMAN SCHOLARSHIP FUND

(1989) Gift of Robert I. Pearlman, B.S. Ch.E. 1955, M.S. Ch.E. 1956.

B. DAVID AND ROSANN PECK SCHOLARSHIP  
FUND

(1990) Gift of B. David Peck, Class of 1959, and Rosann Peck.

## ROBERT L. PELZ SCHOLARSHIP FUND

(1992) Gift of Robert L. Pelz, Class of 1939.

## ANTHONY PENALE SCHOLARSHIP FUND

(1984) Gift of Anthony Penale.

## HERBERT C. PENTZ SCHOLARSHIP FUND

(2002) Bequest of Herbert C. Pentz, Class of 1922.

DR. M. MURRAY AND LILLIAN B. PESHKIN  
SCHOLARSHIP FUND

(1994) Bequest from the Estate of Dr. and Mrs. Peshkin.

## DR. NIS A. PETERSEN SCHOLARSHIP FUND

(2008) Gift of Dr. Nis A. Petersen, Class of 1951.

## PETITO FAMILY SCHOLARSHIP FUND

(2007) Gift of Paula Kessler and Dominic Petito, Class of 1977.

MARY ELLEN AND BRUCE EBEN PINDYCK  
SCHOLARSHIP FUND

(1981) Gift of Mary Ellen and Bruce Eben Pindyck.

## FRANK R. PITT SCHOLARSHIP FUND

(1967) Gift of Mr. Frank R. Pitt, Class of 1928.

PLANALP TREVOR FAMILY SCHOLARSHIP  
FUND

(2010) Gift of Ronnie Planalp and Stephen Trevor, Class of 1986.

ELVIRA AND HAROLD POLLACK MEMORIAL  
SCHOLARSHIP FUND

(1998) Bequest of Roy Howard Pollack.

FRED P. POMERANTZ FOUNDATION  
SCHOLARSHIP FUND

(1965) Gift of Fred P. Pomerantz.

## LOUIS JOHN POPPER SCHOLARSHIP FUND

(1991) Bequest of Louis J. Popper, Class of 1918.

## PETER POUNCEY SCHOLARSHIP FUND

(1992) Gifts of friends of Peter Pouncey from the Class of 1974.

## LEONARD PRICE SCHOLARSHIP FUND

(2006) Gift of Leonard Price, Class of 1928.

MARIE, CHARLES AND WALTER PROBST  
MEMORIAL SCHOLARSHIP FUND

(1963) Bequest of Marie Probst.

## PULITZER SCHOLARS FUND

(1958) Gifts of former Pulitzer Scholars.

ROBERT T. QUITTMAYER SCHOLARSHIP  
FUND

(1990) Gift of Robert T. Quittmeyer, Class of 1941, and Marilyn L. Quittmeyer.

STANLEY A. AND BARBARA B. RABIN  
SCHOLARSHIP FUND

(2007) Gift of Barbara B. and Stanley A. Rabin, Class of 1958.

## THOMAS D. RABIN SCHOLARSHIP FUND

(1997) Gift of Stephen I. Rabin, Class of 1955, and Ruth H. Rabin, in memory of their son, Thomas Daniel Rabin.

RAPAPORT SCHOLARSHIP FUND IN  
MEMORY OF HENRY N. RAPAPORT, CLASS  
OF 1925, LAW CLASS OF 1927

(1985) Gift of his sons, Michael S. Rapaport, Class of 1964, Peter A. Rapaport, and David A. H. Rapaport, Class of 1969; his nephews, Robert D. Rapaport, Martin S. Rapaport, Class of 1962, and Richard A. Rapaport, Class of 1969; and his brother-in-law, M. Murray Peshkin, M.D.

BROOKE AND RICHARD RAPAPORT  
SCHOLARSHIP FUND

(2001) Gift of Richard Rapaport, Class of 1969, and Brooke Rapaport.

PROFESSOR WILLIAM H. REINMUTH  
SCHOLARSHIP FUND  
(1988) Gift of Curtis Instruments.

ROSE AND SAM REISS SCHOLARSHIP FUND  
(1987) Gift of Robert Reiss, Class of  
1952, in memory of his parents.

HUBERT M. RELYEA SCHOLARSHIP FUND  
(1993) Bequest of Hubert M. Relyea,  
Class of 1931.

EUGENE REMMER SCHOLARSHIP FUND  
(1995) Gift of John and Susan  
Ryzewic. Patricia Remmer.

PATRICIA REMMER '45 BC—COLUMBIA  
COLLEGE SCHOLARSHIP FUND  
(2004) Gift of Patricia Remmer.

PETER C. RITCHIE JR. SCHOLARSHIP FUND  
(1937) Bequest of Virginia J. Ritchie.

GERALD AND MAY ELLEN RITTER  
MEMORIAL SCHOLARSHIP FUND  
(1981) Bequest of Gerald and May Ellen  
Ritter.

GERALD AND MAY ELLEN RITTER  
PRESIDENTIAL FELLOWSHIP  
(1981) Bequest of Gerald and May Ellen  
Ritter.

EDWIN ROBBINS, CLASS OF 1953 COLLEGE  
RESIDENTIAL SCHOLARSHIP FUND  
(1985) Gift of Edwin Robbins, Class of  
1953, and Beverly Robbins.

ADELINE AND GERARD ROBERTS  
SCHOLARSHIP FUND  
(1979) Bequest of Adeline Roberts.

WALTER SCOTT ROBINSON FUND  
(1955) Bequest of Walter Scott  
Robinson, Class of 1919.

DR. DUDLEY F. ROCHESTER SCHOLARSHIP  
FUND  
(1998) Gift of Dudley F. Rochester,  
Class of 1950.

RODIN LEVIN FAMILY SCHOLARSHIP  
(2011) Gift of John D. and Rachel  
Levine Rodin, Class of 1997.

HENRY WELSH ROGERS SCHOLARSHIP  
FUND  
(2006) Gift of Henry Welsh Rogers.

ARTHUR G. ROSEN FAMILY SCHOLARSHIP  
FUND  
(1994) Gift of Arthur G. Rosen, Class of  
1965.

PROFESSOR JOHN D. ROSENBERG  
SCHOLARSHIP FUND  
(2008) Gift of John Carey, Class of  
1971.

IDA ROSENBERG SCHOLARSHIP  
(1999) Gifts of Marcia R. Fox P'99 CC  
and Lauren Fox Rosenberg, Class of  
1999, and Robert J. Rosenberg, Class of  
1967.

GERALD E. ROSENBERGER SCHOLARSHIP  
FUND  
(1967) Established in memory of Mr.  
Rosenberger by his family and friends.

DR. LOUIS A. AND BEATRICE B.  
ROSENBLUM SCHOLARSHIP FUND  
(2002) Gift of Dr. Louis A. and Beatrice  
B. Rosenblum.

LEO L. ROSENHIRSCH MEMORIAL  
SCHOLARSHIP FUND  
(1966) Gift of the Rosenhirsch  
Foundation.

ANNA AND AARON ROSENSHINE  
SCHOLARSHIP FUND  
(1992) Gift of Allen G. Rosenshine,  
Class of 1959.

LEWIS A. ROSENTHAL SCHOLARSHIP FUND  
(1951) Gift of William Rosenthal in  
memory of his son.

KATHLEEN ROSKOT MEMORIAL  
SCHOLARSHIP FUND  
(2000) Gifts of family and friends of  
Kathleen Roskot, Class of 2002.

EUGENE T. ROSSIDES SCHOLARSHIP FUND  
(1999) Gift of Eugene T. Rossides, Class  
of 1949.

DR. SAMUEL H. ROTHFELD SCHOLARSHIP  
FUND  
(1995) Gift of Michael B. Rothfeld,  
Class of 1969, in honor of Dr. Samuel H.  
Rothfeld, Class of 1934.

DAVID H. ROUS SCHOLARSHIP FUND  
(1985) Gifts of friends and his son,  
Richard Rous.

JOSEPH RUBIN SCHOLARSHIP FUND  
(1975) Gift of Harvey Rubin, Class of  
1954, in memory of his father.

SAMUEL RUDIN SCHOLARSHIP FUND  
(2000) Gift of Paul Marks, Class of  
1946, and Joan Marks.

GEORGE RUPP SCHOLARSHIP FUND  
(1994) Gift of the Henry and Lucy  
Moses Fund, Inc.

PETER F. RUSSELL SCHOLARSHIP FUND  
(1992) Gift of friends and family of Lt.  
Peter F. Russell, Class of 1962.

RICHARD RUZIKA SCHOLARSHIP FUND  
(2000) Gift of Richard Ruzika, Class of  
1981.

DAVID G. SACKS SCHOLARSHIP FUND  
(2005) Gift of David G. Sacks, Class of 1944.

EUGENE SALBERG SCHOLARSHIP FUND  
(1964) Gift by the Estate of Eugene Salberg.

EVAN C. AND EVAN T. SALMON  
SCHOLARSHIP FUND  
(2003) Gift by the Estate of Avis D. Salmon.

ARNOLD A. SALTZMAN SCHOLARSHIP FUND  
(1986) Gift of Arnold A. Saltzman, Class of 1936.

ARNOLD A. SALTZMAN SCHOLARSHIP FUND  
FOR DOUBLE DISCOVERY PROGRAM  
(2006) Gift of Arnold Saltzman, Class of 1936.

ERIC F. SALTZMAN SCHOLARSHIP FUND  
(1986) Gift of Eric F. Saltzman, Class of 1969.

SAMUELS FAMILY SCHOLARSHIP FUND  
(2009) Gift of Maurice and Lourdes Samuels.

SANDELMAN FAMILY SCHOLARSHIP FUND  
(2002) Gift of Jonathan E. Sandelman and Corrie Sandelman.

HERB AND PEARL SANDICK SCHOLARSHIP  
(2010) Gift of Herbert Sandick, Class of 1943.

AARON AND JAMES SATLOFF SCHOLARSHIP  
FUND  
(2000) Gift of James Satloff, Class of 1984.

SATOW FAMILY SCHOLARSHIP FUND  
(1988) Gift of Phillip M. Satow, Class of 1963.

SCANDINAVIAN SCHOLARSHIP FUND  
(1986) Gift of an anonymous donor.

SCHAPIRO SCHOLARSHIP FUND  
(1999) Gift of Alma and Morris Schapiro, Class of 1923.

SCHENLEY INDUSTRIES, INC., SCHOLARSHIP  
FUND  
(1962) Gift of Schenley Industries Inc., in memory of Ralph T. Hymnsfeld, Class of 1927.

JONATHAN SCHILLER SCHOLARSHIP FUND  
(2011) Gift of Jonathan Schiller, Esq., Class of 1969.

SCHLUMBERGER FOUNDATION  
SCHOLARSHIP FUND  
(1984) Gift of the Schlumberger Foundation.

IRVING SCHMELZEL SCHOLARSHIP FUND  
(1965) Gift of Claire L. Schmelzel in memory of her husband.

SAMUEL SCHOLNICK SCHOLARSHIP FUND  
(2001) Gift of Arnold R. Tolkin, Class of 1954.

SAMUEL AND ANNA SCHREIBER  
SCHOLARSHIP FUND  
(1987) Gift of Leonard I. Schreiber, Class of 1935.

ROBERT SCHWARZ SCHOLARSHIP FUND  
(1968) Gift of the Schwarz family.

GERTRUDE AND WILLIAM P. SCHWEITZER  
SCHOLARSHIP FUND IN THE SCIENCES  
(1990) Bequest of Gertrude Schweitzer.

WILLIAM P. SCHWEITZER SCHOLARSHIP  
FUND  
(1973) Gift of Mrs. William P. Schweitzer, in memory of her husband William P. Schweitzer, Class of 1921.

LEONARD T. SCULLY SCHOLARSHIP FUND  
(1957) Gift by the Estate of Mrs. Millicent W. Smyth.

FRANK LINWOOD AND GRACE  
FARRINGTON SEALY FUND  
(1989) Bequest of Donald F. Sealy.

THE ALBERT A. SEGNA MEMORIAL  
SCHOLARSHIP FUND  
(2003) Gift of Rudy A. Segna, Class of 1981.

KARL LUDWIG SELIG SCHOLARSHIP FUND  
(2001) Gift of Thomas H. Glocer, Class of 1981.

THERESA PRINCE SEMON SCHOLARSHIP  
FUND  
(1953) Gift of the Board of Trustees of the Good Neighbor Federation.

MR. AND MRS. PING LINGSENG  
SCHOLARSHIP FUND  
(1986) Gift of Peter Seng, Class of 1963, in honor of his parents, Mr. and Mrs. Ping Ling Seng.

ARTHUR J. AND KATHERINE FLINT SHADEK  
SCHOLARSHIP FUND  
(1970) Gift of Mr. and Mrs. Arthur J. Shadek.

NORMAN SHAPIRO SCHOLARSHIP FUND  
(1977) Gift of Mrs. Eleanor Redman Shapiro.

REUBEN SHAPIRO SCHOLARSHIP FUND  
(2010) Gift of Robert J. Grey, Class of 1972 and Susan Grey.

SOLOMON AND DORA MONNESS SHAPIRO  
SCHOLARSHIP FUND  
(1952) Bequest of Dora Monness Shapiro.

GEORGE SHAW SCHOLARSHIP FUND  
(2000) Gifts of family and friends of  
George Shaw, Class of 1953.

JAMES PATRICK SHENTON SCHOLARSHIP  
FUND  
(1997) Gift of Socrates Nicholas, Class  
of 1956.

JAMES PATRICK SHENTON MEMORIAL  
SCHOLARSHIP FUND  
(2003) Gift of Craig Gurian, Class of  
1979.

JESSE SIEGEL SCHOLARSHIP FUND  
(1984) Gift of Jesse S. Siegel, Class of  
1949.

SIDNEY J. SILBERMAN SCHOLARSHIP FUND  
AT COLUMBIA COLLEGE  
(1998) Gift of Sidney J. Silberman,  
Class of 1942.

RONALD K. SIMONS CLASS OF 1982  
SCHOLARSHIP  
(2003) Gift of Ronald K. Simons, Class  
of 1982.

SINGH FAMILY SCHOLARSHIP  
(2001) Gift of Ravi M. Singh, Class of  
1988.

MARVIN SIROT SCHOLARSHIP FUND  
(1984) Gift of Margaret Sirot and their  
children in memory of Marvin Sirot,  
Class of 1956.

JOSEPH M. SKRYPSE SCHOLARSHIP FUND  
(2007) Bequest of Joseph M. Skrypsi.

LAWRENCE SLAUGHTER SCHOLARSHIP  
FUND  
(2010) Gift of Lawrence Slaughter,  
Class of 1985.

ERIC V. SMITH SCHOLARSHIP FUND  
(1994) Gift of Blair W. Smith, family,  
and friends in memory of Eric V. Smith,  
Class of 1988.

GLORIA KAUFMAN KLEIN SMITH  
SCHOLARSHIP FUND  
(2009) Bequest of Gloria Smith.

DAVID W. SMYTH SCHOLARSHIP FUND  
(1926) Gift of David W. Smyth.

SOLENDER FAMILY FUND  
(2011) Gift of Michael S. Solender,  
Class of 1986.

JOSEPH SOLOMON PRESIDENTIAL  
SCHOLARSHIP FUND  
(1990) Bequest of Julius C. Levi via the  
Laura Boulton Trust.

HERBERT B. SOROCA SCHOLARSHIP FUND  
(1990) Gift of Herbert B. Soroca, Class  
of 1963.

SPINGARN FAMILY SCHOLARSHIP FUND  
(1990) Gift of James L. Spingarn, Class  
of 1962.

ARTHUR B. SPINGARN SCHOLARSHIP FUND  
(1993) Bequest of Arthur B. Spingarn,  
Class of 1897.

SUSTAINABLE DEVELOPMENT  
SCHOLARSHIP ENDOWMENT FUND  
(2010) Gift of Joseph Ellis, Class of  
1964 and Barbara Ellis.

LISA AND DAVID STANTON FAMILY  
SCHOLARSHIP  
(2011) Gift of David B. Stanton, M. D.  
Class of 1977.

HARRISON R. AND EDNA L. STEEVES  
SCHOLARSHIP FUND  
(1995) Gift of Edna L. Steeves.

ALAN L. AND RUTH STEIN SCHOLARSHIP  
FUND  
(1986) Gift of Alan L. Stein, Class of  
1952, and Ruth Stein.

ALAN W. STEINBERG SCHOLARSHIP FUND  
(1990) Gift of Alan Wolfe Steinberg,  
Class of 1948, and Suzanne Steinberg.

MRS. RICHARD STEINSCHNEIDER  
SCHOLARSHIP FUND  
(1958) Gift of Mr. Richard  
Steinschneider, Class of 1919, and Mrs.  
Steinschneider.

MICHAEL D. STEPHENS SCHOLARSHIP FUND  
(2002) Gift of Michael D. Stephens,  
Class of 1966.

HERBERT B. STERN SCHOLARSHIP FUND  
(1997) Gift of Herbert B. Stern.

HELEN M.C. AND J. EDWARD STERN BIO-  
MEDICAL SCHOLARSHIP FUND  
(1996) Gift from the J. Edward and  
Helen M. C. Stern Foundation.

ARNOLD AND MATILE STIEFEL  
SCHOLARSHIP FUND  
(1948) Bequest of Matile L. Stiefel.

SAMUEL STONE MEMORIAL SCHOLARSHIP  
FUND  
(1992) Gifts of Robert S. Stone, Class of  
1959, Chester I. Stone, Class of 1967,  
and Phyllis B. Stone, Class of 1991.

ARTHUR HAYS SULZBERGER SCHOLARSHIP  
FUND  
(1963) Gift of Arthur Hays Sulzberger.

OLON E. SUMMERFIELD FOUNDATION,  
INC., SCHOLARSHIP FUND  
(1956) Gift of the Solon E. Summerfield  
Foundation, Inc.

BERNARD AND MARJORIE SUNSHINE  
SCHOLARSHIP FUND  
(2002) Gift of Bernard Sunshine, Class  
of 1946, and Marjorie Sunshine

SWERGOLD FAMILY SCHOLARSHIP FUND  
(1990) Gift of Leopold Swergold, Class  
of 1962.

ANNA WARE AND MACRAE SYKES  
SCHOLARSHIP FUND  
(1963) Gift of her son, Macrae Sykes,  
Class of 1933.

ROBERT J. SZARNICKI FAMILY  
SCHOLARSHIP FUND  
(2000) Gift of Robert J. Szarnicki, Class  
of 1965.

DANIEL TAMKIN AND CINDY CARDINAL  
SCHOLARSHIP FUND  
(2009) Gift of Lucinda Cardinal and  
Daniel Tamkin, Class of 1981.

ANGELO TARALLO MEMORIAL  
SCHOLARSHIP FUND  
(2005) Gift of Patricia Tarallo.

ABRAHAM TAUB SCHOLARSHIP FUND  
(1991) Bequest of Abraham Taub.

WALLACE TAYLOR MEMORIAL  
SCHOLARSHIP FUND  
(1992) Gifts of Sachems alumni.

WILLIAM TOWSON TAYLOR SCHOLARSHIP  
FUND  
(1976) Bequest of William Taylor and  
gifts of other friends in his memory.

DR. JOSEPH F. TEDESCO SCHOLARSHIP  
FUND  
(2004) Bequest of Vera L. Tedesco.

FRANKLIN A. THOMAS SCHOLARSHIP FUND  
(2008) Gift of Franklin A. Thomas,  
Class of 1956.

BLANCHE S. THORMAN SCHOLARSHIP FUND  
(1972) Bequest of Blanche S. Thorman.

ISABEL AND IRVING N. TOLKIN MEMORIAL  
SCHOLARSHIP FUND  
(1983) Gift of the Irving Tolkin  
Foundation, Inc.

LAURIE J. AND JEFFREY D. TOLKIN  
SCHOLARSHIP FUND  
(2000) Laurie J. and Jeffrey D. Tolkin  
Scholarship Fund.

LILLIAN AND TRYGVE H. TONNESSEN  
SCHOLARSHIP FUND  
(1989) Gift of Trygve H. Tonnessen,  
Class of 1939, and Lillian Tonnessen.

MARGUERITE AND JOSEPH A. TRISKA  
MEMORIAL SCHOLARSHIP FUND  
(1983) Gift of Mr. Theodore H. Elliott  
Jr.

TRUST BRIDGE PARTNERS SCHOLARS  
(2009) Gift of Shujun Li.

KYRIAKOS TSAKOPOULOS SCHOLARSHIP  
FUND IN HONOR OF EUGENE ROSSIDES  
(2005) Gift of Kyriakos Tsakopoulos,  
Class of 1993.

TUKMAN FAMILY SCHOLARSHIP FUND  
(2007) Gift of the Tukman Family.

TYLER UGOLYN MEMORIAL SCHOLARSHIP  
FUND  
(2002) Gift of Mr. and Mrs. Victor  
Ugolyn, in memory of their son, Tyler  
Ugolyn, Class of 2001.

US STEEL SCHOLARSHIP FUND  
(2002) Gift of USX.

VAN AMRINGE SCHOLARSHIP FUND IN  
COLUMBIA COLLEGE  
(1957) Bequest of Emily Buch.

IVAN B. VEIT ENDOWMENT FUND  
(2005) Bequest of Ivan B. Veit, Class of  
1928.

SIGMUND AND MARY VIOLIN SCHOLARSHIP  
FUND  
(1996) Gift of George A. Violin, Class  
of 1963.

WILLIAM F. VOELKER MEMORIAL  
SCHOLARSHIP FUND  
(1976) Gift of various donors and the  
Estate of William F. Voelker.

H. EDWARD VOLLMERS MEMORIAL  
SCHOLARSHIP FUND  
(1976) Gift of the friends of H. Edward  
Vollmers.

FRANCES AND GUSTAVE VON GROSCHWITZ  
SCHOLARSHIP FUND IN ART HISTORY  
(1991) Gift of Gustave von Groschwitz.

K. RICHARD WALLACH FUND  
(1967) Bequest of Cynthia Marrin  
Wallach.

LEO J. WALSH MEMORIAL SCHOLARSHIP  
FUND  
(2006) Bequest of Leo J. Walsh.

WANG FAMILY FUND  
(2009) Gift of Philip P.F. Wang, Class  
of 1970.

WILLIAM H. WARDEN MEMORIAL  
SCHOLARSHIP FUND  
(1996) Gift of Dorothy Warden.

WARREN FAMILY SCHOLARSHIP  
(2005) Gift of Irwin Warren, Class of  
1971.

DR. HELEN L. WARREN SCHOLARSHIP FUND  
(2007) Gift of Dr. Helen L. Warren.

GEORGE WASCHECK SCHOLARSHIP FUND  
(1990) Gift of George Wascheck.

MORRIS W. WATKINS SCHOLARSHIP FUND  
(1987) Gift of William Collin.

ROBERT W. WATT SCHOLARSHIP FUND  
(1976) Gifts of friends of Robert W. Watt, Class of 1916.

DR. CHARLES A. WEBSTER INTERSCHOOL  
SCHOLARSHIP FUND  
(1994) Gift of Dr. Charles A. Webster,  
Class of 1940.

GEORGE E. WEIGL SCHOLARSHIP FUND  
(1982) Gift by the Estate of George  
Weigl.

JOSHUA AND DONNA WEINER  
SCHOLARSHIP FUND  
(1998) Gift of Joshua H. Weiner, Class  
of 1936.

ARTHUR S. AND MARIAN E. WEINSTOCK  
SCHOLARSHIP FUND  
(1995) Gift of Arthur S. Weinstock,  
Class of 1941, and Marian E.  
Weinstock.

GEORGE J. AND FRANCES K. WEINSTOCK  
SCHOLARSHIP FUND  
(2006) Gift of Arthur S. Weinstock,  
Class of 1941 in honor of his parents.

EDWARD S. WEISIK SCHOLARSHIP FUND  
(2004) Bequest of Edward S. Weisik.

RABBI SHELDON J. WELTMAN, PH.D.  
SCHOLARSHIP FUND  
(1992) Bequest of Rabbi Sheldon J.  
Weltman, Ph.D.

WEST END SCHOLARSHIP FUND  
(1998) Gift of Katherine A. Gardner,  
Kirk W. Michel and Joseph F. Spiegel.

JOHN AND MARY JO WHITE SCHOLARSHIP  
FUND  
(2008) Gift of John Walter White and  
Mary Jo White.

JOSEPH THOMAS WIDOWFIELD  
SCHOLARSHIP FUND  
(1994) Bequest of Joseph T.  
Widowfield, Class of 1983.

ALAN J. WILLEN MEMORIAL FUND  
(1967) Gifts from various donors from  
the Class of 1964.

MARK HINCKLEY WILLES SCHOLARSHIP  
FUND  
(1986) Gift of Mark H. Willes, Class of  
1963, and Laura Willes in honor of his  
parents, Ruth Hinckley and Joseph  
Willes.

WILLNER FAMILY SCHOLARSHIP FUND  
(2002) Gift of Jane and David  
Bloomgarden, and Joseph Willner.

GEORGE LEO WINGSHEE MEMORIAL  
SCHOLARSHIP FUND  
(2004) Gift of Donna Wingshee Loo.

RICHARD AND ELIZABETH WITTEN  
SCHOLARSHIP FUND  
(2005) Gift of Richard E., Class of 1975  
and Elizabeth Witten.

WOLF FAMILY SCHOLARSHIP  
(2011) Gift of Sherri L. Wolf, Class of  
1990 and Douglas Wolf, Class of 1988.

BEN D. WOOD SCHOLARSHIP FUND  
(1986) Bequest of Ben D. Wood, Class  
of 1922.

GORDON W. WOOD SCHOLARSHIP FUND  
(1992) Gift of Gordon W. Wood, Class  
of 1943.

KENNETH AND THOMAS WRIGHT  
SCHOLARSHIP FUND  
(2008) Gift Kenneth B. Wright Jr., Class  
of 1974.

DAVID WU AND FRED WANG FUND  
(2010) Gift of David Wu and Fred  
Wang.

LIU XU SCHOLARSHIP FUND  
(2006) Gift of an anonymous donor.

PHILIP C. YACOS MEMORIAL SCHOLARSHIP  
FUND  
(1986) Gift of Mrs. Helen N. Yacos and  
friends of Philip C. Yacos, Class of  
1980.

YATRAKIS SCHOLARSHIP FUND  
(2009) Gift of Demetrios Yatrakis, Class  
of 2005.

ONG YEE SCHOLARSHIP FUND  
(2010) Gift of Danny Ong Tee and  
Stephanie Wong Yee.

KENNETH YIM FAMILY FUND  
(2011) Gift of Kenneth Yim.

SAMUEL YIN FAMILY FUND  
(2005) Gift of Samuel Yin, Class of  
1975.

YI-CHANG YIN AND WAN-HUNG CHANG YIN  
SCHOLARSHIP FUND  
(2000) Gift of Samuel Yin, Class of  
1976.

WILLIAM H. YOKEL SCHOLARSHIP FUND  
(2007) Gift of William H. Yokel, Class  
of 1944.

THE YU FAMILY FUND  
(2005) Gift of Kyung-Sun Yu.

TUNG LI AND HUI HSI YUAN MEMORIAL  
SCHOLARSHIP FUND  
(1965) Gifts of family, friends, and  
admirers of Tung Li and Hui Hsi Yuan,  
Class of 1922.

VICTOR AND BETTY ZARO SCHOLARSHIP FUND  
(1995) Gift of Victor J. Zaro, Class of 1942, and Betty Zaro.

TIMOTHY ZARO SCHOLARSHIP FUND  
(2000) Gift of Victor J. Zaro, Class of 1942.

VICTOR J. ZARO SCHOLARSHIP FUND  
(1996) Gift of Victor J. Zaro, Class of 1942.

JESSICA ZAUNER MEMORIAL SCHOLARSHIP  
(2006) Gift of Anton, Class of 1973 and Anna Zauner.

JOSEPH C. ZAVATT SCHOLARSHIP FUND  
(2006) Gift of the Estate of Anna Maas Zavatt.

ZBT—STANLEY I. FISHEL, CLASS OF 1934 SCHOLARSHIP FUND  
(2004) Gift of Delta ZBT Corporation.

ZICKLER FAMILY SCHOLARSHIP FUND  
(2008) Gift of Leo Zickler, Class of 1958.

DAVID AND RAY MOONEY ZWERLING SCHOLARSHIP FUND  
(1991) Gifts of L. Steven Zwerling, Class of 1960, and Leonard J. Zwerling, Class of 1965.

# Fees and Expenses

## ESTIMATED EXPENSES FOR THE ACADEMIC YEAR

An itemized estimate of the cost of attending Columbia College for the 2011–2012 academic year of nine months is as follows:

	RESIDENT	COMMUTER
Tuition	\$43,088	\$43,088
Mandatory fees	\$2,202	\$2,202
Average room and board cost	\$11,020	varies
Books and miscellaneous	\$2,898	\$2,898
Travel	varies	varies
Total	\$59,208 +travel	\$48,188 +room, board, and travel

There is an additional charge of \$416 for new students who are required to attend Orientation.

Information on planning and managing educational expenses is contained at <http://www.columbia.edu/cu/sfs/>.

## FEES

The following fees, prescribed by statute for each fall or spring term, are subject to change at any time at the discretion of the Trustees. The fees shown are those in effect during the 2011–2012 academic year.

University charges such as tuition and fees, residence halls, and dining plans are due and payable in full by the date announced before the beginning of each term. To check on an account balance, call 212-854-4400. A late payment penalty is assessed on payments received after the due date.

It is the policy of the University to withhold all University services including registration, diplomas, and official transcripts until all financial obligations have been met.

### Tuition 2011–2012

There is a flat tuition charge for all Columbia College students, including visitors, regardless of the number of credits a student is taking. Students who are enrolled for eight terms must pay the flat tuition, regardless of the number of credits they are taking. The charge for 2011–2012 is \$21,544 a term.

Postgraduate special students and degree candidates enrolled for a ninth term are billed according to the per-point system; the per-point cost is \$1,436.

### Late Registration Fee

Students who register after the scheduled period (see *Academic Calendar*) are charged a late registration fee of \$100.

### Mandatory Fees

Student Life fee	\$1,302
Health Service fee	\$900
Total	\$2,202

### Transcript Fee

All first-time registrants at Columbia University are charged a one-time fee of \$95, which thereafter allows them to order transcripts without charge. This fee appears on the first Student Account Statement of the fall term.



## Health Service Fee and Student Medical Insurance Premium

### HEALTH SERVICE FEE

Services and programs offered by Health Services at Columbia (HSC) are supported by the Health Service Fee. Students who have paid the fee pay no additional charges when using services provided on campus, except for charges for certain immunizations and travel assessments. University policy requires all full-time students to have acceptable health insurance coverage and pay the Health Service Fee. In addition to the services available on campus, HSC arranges for students who have paid the fee to obtain coverage for certain off-campus services when necessary. There are limits and restrictions on this coverage. Please review the full program descriptions and directions for utilizing the benefits at [www.health.columbia.edu](http://www.health.columbia.edu). The fee is billed separately for each term according to the following schedule:

The periods of coverage and fees for 2011–2012 are as follows:

Fall term: September 1, 2011–January 16, 2012     \$450

Spring term: January 17, 2012–August 31, 2012     \$450

### STUDENT MEDICAL INSURANCE PREMIUM

University policy requires all registered full-time students to have acceptable health insurance coverage. Columbia University offers the Student Medical Insurance Plan, which provides both Basic and Comprehensive levels of coverage. The Plan is administered by Aetna Student Health and is underwritten by Aetna. Full-time students are automatically enrolled in the Basic level of the Columbia Plan and billed for the insurance premium in addition to the Health Service Fee. Part-time students may elect enrollment in the Health Services Program and in the Columbia Plan. For detailed information about health insurance coverage, or submitting a waiver request, visit <http://www.health.columbia.edu>.

### RATES

The following rates are for the 2011–2012 plan year. Columbia Plan rates and benefits change annually. For additional information, visit <http://www.health.columbia.edu>.

*Fall Term: September 1, 2011–January 16, 2012*

Basic level	\$763
Comprehensive level	\$1,108

*Spring Term and Summer Session: January 17, 2012–August 31, 2012*

Basic level	\$1,172
Comprehensive level	\$1,708

When a student drops below full-time status during the change of program period, the Health Service Fee and Student Medical Insurance premiums and enrollment are automatically reversed unless the student has already used the insurance benefits.

Students who wish to remain enrolled in the Health Service Program and the Columbia Plan should stop by the Health Services Insurance Office located on the first floor of Wien Hall (212-854-3286).

### Withdrawal and Adjustment of Fees

Withdrawal is defined as the dropping of one's entire program in a given term as opposed to dropping a portion of one's program (see College and University Policies). Any student withdrawing from the College must notify the Center for Student Advising in writing; **notification to instructors or failure to attend classes does not constitute a formal withdrawal and will result in failing grades in all courses.**

A student who withdraws is charged a withdrawal fee of \$75. In addition, the Health Service fees, the medical insurance premium, and all application fees, late fees, and other special fees are not refundable, and any coverage remains in effect until the end of the term.

Any adjustment of the tuition that the student has paid is reckoned from the date on which the Center for Student Advising receives the student's written notification. Students receiving financial aid are not entitled to any portion of a refund until all Title IV financial aid programs are credited and all outstanding charges have been paid.

The date upon which written notice is received from the student by the Center for Student Advising determines the percentage of the rebate.

#### **WITHDRAWAL ADJUSTMENT SCHEDULE**

When a term begins on a Tuesday, the term week goes from Tuesday to Monday. Based on the week of withdrawal, the refund percentage is as follows:

<i>Week of the Term</i>	<i>Refund</i>
1st week	100%
2nd week	90%
3rd week	80%
4th week	80%
5th week	70%
6th week	60%
7th week	60%
8th week	50%
9th week	40%
10th week and after	0%

# Registration

URL: <http://www.columbia.edu/cu/registrar/>

## REGISTRATION AND ENROLLMENT

Registration is the systematic process that reserves seats in particular classes for eligible students. It is accomplished by following the procedures announced in advance of each term's registration period. Enrollment is the completion of the registration process and affords the full rights and privileges of student status. Enrollment is accomplished by the payment or other satisfaction of tuition and fees and by the satisfaction of other obligations to the University.

Registration alone does not guarantee enrollment; nor does registration alone guarantee the right to participate in a class. In some cases, students need to obtain the approval of the instructor or of a representative of the department that offers a course. Please check this bulletin and the registration instructions contained in the on-line Directory of Classes for all of the approvals required.

To comply with current and anticipated Internal Revenue Service mandates, Columbia University requires all students to report their Social Security numbers at the time of admission. Newly admitted students who do not have Social Security numbers should obtain one **well in advance of their first registration**. International students should consult the International Students and Scholars Office, located at 524 Riverside Drive (telephone: 212-854-3587), for further information.

According to University regulations, each person whose registration has been completed is considered a student of the University during the term for which they are registered unless the student's connection with the University is officially severed by withdrawal or otherwise. No student registered in any school or college of the University shall at the same time be registered in any other school or college, either of Columbia University or of any other institution, without the specific authorization of the dean or director of the school or college of the University in which he or she is first registered.

The privileges of the University are not available to any student until they have completed registration. A student who is not officially registered for a University course may not attend the course. No student may register after the stated period unless he or she obtains the written consent of the appropriate dean or director.

The University reserves the right to withhold the privilege of registration or any other University privilege from any person with an unpaid debt to the University. Students are held accountable for absences incurred owing to late enrollment.

No Columbia College student may register for fewer than 12 points in any given semester without the express permission of the Committee on Academic Standing (see the Center for Student Advising).

Each Columbia College student must be registered for at least 12 points by the last day to drop a class (see *Academic Calendar*) in order to avoid being withdrawn from the College.

## Registration and Change-of-Program Instructions

Registration and change-of-program instructions are announced in advance of each registration and change-of-program period. Instructions appear on the Registrar's home page. Please consult those instructions for the exact dates and times of registration and change-of-program activities. Students must obtain all necessary written course approvals and advisers' signatures before registering. The late registration fee is \$100.

## Registration for Classes

Registration for classes and change of program are by appointment on-line. Some classes have limits that are controlled directly by instructors or their departments. To register for these classes, students must first obtain the signature of the person

indicated in the registration instructions. The student should then register in accordance with instructions provided by the Office of the Registrar.

No courses may be added after the last day of registration/change of program. The tentative dates for this year are:

### **FALL 2011**

#### **Change of Program**

September 2 for first year students

September 3, 6-9 and 12-16 for all students

### **SPRING 2012**

#### **Registration**

November 14-18 for students continuing from the fall semester

#### **Change of Program**

January 10-13, 17-20, 23-27 for all students

### **FALL 2012**

#### **Registration**

April 9-13 for students continuing from the spring semester

### **Dropping Courses**

With the exception of certain Core Curriculum courses, (see below) students may drop a course using the on-line registration system during the registration and change-of-program periods. The final dates for dropping courses during the academic year 2011-2012 are October 11 for the fall term and February 21 for the spring term.

With the approval of their advising dean students may elect to drop a course after the drop deadline but by the end of the Pass/D/Fail deadline resulting in the mark of W. This is a permanent mark, and remains on the transcript even if the student repeats the course for credit.

Students should be aware that they may not drop or withdraw from a course if it will put them below 12 credits for the semester, and that no refund whatsoever will be made.

Failure to attend classes or unofficial notification to the instructor does not constitute dropping a course. Students who stop attending class without dropping or withdrawing officially are assigned a letter grade by the instructor even if they have not completed any substantive work in the course. Any uncompleted work is averaged into the final grade as a “zero” or an “F,” and the instructor computes and awards a final course grade.

### **Dropping Core Courses**

Students may drop a Core Curriculum course using the on-line registration system no later than September 16th for the fall 2011 term and January 27 for the spring 2012 term.

Students are not permitted to drop Literature Humanities, University Writing, Frontiers of Science, Contemporary Civilization, Music Humanities, or Art Humanities after these deadlines without the approval of the Committee on Academic Standing.

Students wishing to drop courses counting towards the Physical Education, Science, and Language requirements are bound by the general drop deadlines above.

### **Changing Grading Options**

Courses may be changed from regular grading to Pass/D/Fail or from Pass/D/Fail to regular grading up to and including November 17 in the fall term and up to and including March 22 in the spring term during the academic year 2011–2012.

# Requirements for the Degree of Bachelor of Arts

## POLICY ON DEGREE REQUIREMENTS

The Committee on Instruction and the faculty of Columbia College review College degree requirements and curricular matters each year. The bulletin reflects these faculty recommendations and curricular changes in its yearly reprinting. College policy requires students to fulfill the degree requirements as stated in the bulletin of the first year of their matriculation into the College.

## POINTS

Every student must complete 124 points. The last two terms must be taken while enrolled in the College for study on this campus, at Reid Hall in Paris, the Berlin Consortium for German Studies, the Kyoto Center for Japanese Studies, or the Columbia in Beijing Program at Tsinghua University, or the Consortium for Advanced Studies in Barcelona.

One course may not normally be taken to fulfill more than one requirement for the degree. However, a course that satisfies the Global Core, the science, or the foreign language requirement may also be used to satisfy a student's major or concentration requirements.

Courses may not be repeated for credit, nor may course credit be earned in subjects for which Advanced Standing (AP, IB, GCE, etc.) has been granted. Students also cannot receive credit for previous courses in which the content has been substantially duplicated, at Columbia or elsewhere. For example, credit cannot be earned for two first-term calculus courses, even if one is more theoretical in approach than the other; credit cannot be earned for two comparable terms of a science or foreign language even if one has a Barnard course number and the other a Columbia course number. In some courses only partial credit may be counted toward the degree. Courses not listed in this bulletin must be approved by the advising dean, since such courses might not bear College credit (e.g., *MATH W1003, College algebra*; *BUSI W3020 Introduction to marketing/marketing management*). A student who has a question about whether degree credit may be earned in a course should consult their advising dean.

Columbia College students must be registered for a minimum of 12 points by the end of the change-of-program period each term. See *Academic Calendar*.

## THE CORE CURRICULUM

The following required courses constitute the Columbia College Core Curriculum. They include general education requirements in major disciplines and, except for Physical Education, must be taken for a letter grade. The entire Core can be summarized as follows:

Literature Humanities	<i>HUMA C1001</i> and <i>HUMA C1002</i>
Frontiers of Science	<i>SCNC C1000</i>
University Writing	<i>ENGL C1010</i>
Art Humanities	<i>HUMA W1121</i>
Music Humanities	<i>HUMA W1123</i>
Contemporary Civilization	<i>COCI C1101</i> and <i>COCI C1102</i>
Science Requirement	<i>SCNC C1000</i> and two terms from the <i>List of Approved Courses</i>
Global Core Requirement	two terms from the <i>List of Approved Courses</i>
Foreign Language Requirement	four terms or the equivalent
Physical Education Requirement	two terms and a swimming test

Students are generally required to complete Literature Humanities, University Writing, and Frontiers of Science in the first year. Additionally, the College strongly recommends that students complete Contemporary Civilization by the end of the

sophomore year, and Art Humanities and Music Humanities by the end of the junior year.

Students considering a major in the sciences should, in their first two years, focus on required introductory science courses in addition to their Core requirements.

Students considering a major in the humanities and social sciences should, in their first two years, take a combination of Core requirements and introductory level courses in the departments in which they are interested in majoring.

Courses in fulfillment of the Core Curriculum must be taken in Columbia College, with the exception of the foreign language requirement, which, in some instances, may be satisfied at Barnard or in the School of General Studies. Other exceptions to this rule are granted only with the approval of the Committee on Academic Standing, except for Global Core and the Science Requirement, which must be petitioned to the appropriate faculty committee through the Office of the Dean (208 Hamilton).

Students who wish to satisfy degree requirements with courses taken at other universities in the summer must receive the approval of their advising dean in advance. All students should consult with their advising deans and departmental advisers, who will assist them in selecting appropriate courses and planning their programs.

## **THE DEPARTMENTAL MAJOR OR CONCENTRATION REQUIREMENT**

All students must complete either a major or a concentration as described in the departmental sections of this bulletin. Students should check for both the minimum and maximum points allowed for a major, as well as for any restrictions on courses in which a student earns a grade of D or which are taken on a Pass/D/Fail basis. Some majors and concentrations require that certain introductory courses be completed before the start of the junior year. Students should read carefully the degree requirements for their proposed major or concentration.

The purpose of the major or concentration requirement is to give each student the experience of doing sustained and advanced work, including individual research, in a field of special interest. A major consists of intensive study in one department involving the satisfaction of a variety of requirements; a concentration demands fewer departmental course points or requirements than a major. Whether the student chooses a major or concentration depends on their particular aims and needs, as well as on the offerings of the particular department in which they plan to work.

It should be emphasized that this requirement is not designed to produce professionally trained specialists, nor is it assumed that students will ultimately be employed in work related to the subject in which they are majoring or concentrating. In the spring of their sophomore year, students should confer with faculty members in the department, advising deans, or advisers in the Center for Career Education while choosing a major or concentration. Information about the process for declaring a major or concentration is sent to students in the spring of the sophomore year.

Normally, courses for a major or concentration, including related courses, may not be used to satisfy the course requirements for a second major or concentration. However, a student may petition the Committee on Instruction for a waiver of this policy. The Committee will base its decision on such petitions on what it regards as intellectually compelling grounds.

## **LENGTH OF CANDIDACY**

A student is normally permitted eight terms in which to earn the Columbia B.A. degree. A student may continue to work for the degree past the eighth term only with permission in advance from the Committee on Academic Standing. (Please obtain request forms from the Center for Student Advising.)

## **MODIFICATION OF REQUIREMENTS**

The requirements for the degree may be modified or waived in individual cases by the Committee on Instruction acting for the Faculty. Students wishing to petition the Committee are advised to discuss their requests with their advising dean.

## REQUIREMENTS FOR TRANSFER STUDENTS

Columbia College offers transfer students the opportunity to experience a wide ranging liberal arts education that includes its Core Curriculum and a myriad of course offerings in major departments. Upon admission to Columbia College, transfer students should familiarize themselves with the regulations below pertaining to their special status.

### Regulations on Transfer Credit

In order to receive the Columbia College degree, transfer students must complete a minimum of 60 points while enrolled in the College. Courses taken on Columbia-sponsored programs abroad earn students credits toward this minimum requirement. Transfer students may apply a maximum of 64 points toward advanced standing at the College. Credit granted on the basis of Advanced Placement, International Baccalaureate, and other standardized examinations are counted toward the 64-point maximum, as are credits earned on study-abroad programs outside of Columbia. Credit is not granted for college courses taken while in high school.

### Credit Toward the Degree and Core/Major Requirements

Transfer students receive credit for non-Columbia courses that are substantially similar to Columbia College courses only when the grades received are C- or better. Transfer students must supply course descriptions and syllabi for all courses they would like considered for transfer credit. Once a transfer student is admitted, a credit review is conducted, and a tentative credit evaluation is sent to the student. A final credit evaluation is conducted when the student has matriculated in Columbia College, received all appropriate approvals from the departments, and a final official transcript, course descriptions, and syllabi have been received.

### Degree Completion

Transfer students are expected to graduate in eight semesters, including terms completed before entering Columbia. Extended time is not granted to finish a particular major, so transfer students should be especially careful to meet with advisers to plan out their academic schedule. Some majors may be difficult to complete for certain transfer students based on the number of credits required to complete the major and the number of terms remaining for the student to complete all Core and major requirements.

# Core Curriculum

**The Center for the Core Curriculum:** 202 Hamilton Hall; 854-2453

**URL:** <http://www.college.columbia.edu/core/>

## Committee on the Core Curriculum

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Don Melnick

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Evolution and Environmental  
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Chair of Frontiers of Science  
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The Core Curriculum is the cornerstone of a Columbia education. Central to the intellectual mission of the Core is the goal of providing all Columbia students, regardless of their major or concentration, with wide-ranging perspectives on significant ideas and achievements in literature, philosophy, history, music, art, and science.

Contemporary Civilization began in 1919 as a course on war and peace issues, and the creation of Literature Humanities followed in 1937. By 1947 Art Humanities and Music Humanities had been added, and a new course in Asian Humanities was introduced. The global core requirement, formerly major cultures, joined the Core in 1990 and *Frontiers of science* in 2004. Though celebrated for their content, these courses are equally important for their small class format. Taught in seminars limited to approximately twenty-two students, these courses ensure that education at Columbia begins with an emphasis on active intellectual engagement. The small size of most Core Curriculum classes provides students with the opportunity to develop intellectual relationships with faculty early on in their College career and to participate with them in a shared process of intellectual inquiry. In the Core



Curriculum the pursuit of better questions is every bit as important as the pursuit of better answers.

The skills and habits honed by the Core—observation, analysis, argument, imaginative comparison, respect for ideas, nuances, and differences—provide a rigorous preparation for life as an intelligent citizen in today’s complex and changing world.

## Literature Humanities

**Chair of Literature Humanities:** Prof. Christia Mercer, 707 Philosophy Hall; (212) 854-3190

*HUMA C1001-C1002: Masterpieces of Western literature and philosophy.* Popularly known as “Literature Humanities” or “Lit Hum,” this yearlong course offers Columbia College students the opportunity to engage in intensive study and discussion of some of the most significant texts of Western culture. The course is not a survey, but a series of careful readings of literary works that reward both first encounters and long study. Whether class work focuses on the importance of the text to literary history or on its significance to our contemporary culture, the goal is to consider particular conceptions of what it means to be human as well as the place of such conceptions in the development of critical thought.

The principal objectives of Literature Humanities are to teach students to analyze literary texts and to construct intellectual arguments. An interdepartmental staff of professorial and preceptorial faculty meets with groups of approximately twenty-two students for four hours a week in order to discuss texts by Homer, Aeschylus, Sophocles, Euripides, Herodotus, Thucydides, Aristophanes, Plato, Vergil, Augustine, Dante, Boccaccio, Montaigne, Shakespeare, Austen, Dostoevsky, and Woolf, as well as Hebrew Scriptures and New Testament writings.

### Registration Procedure

All information concerning registration in *HUMA C1001-C1002* is included in the registration materials sent to students. All first-year students are preregistered in Literature Humanities.

### COURSES OF INSTRUCTION

**HUMA C1001-C1002 Masterpieces of Western literature and philosophy 4 pts.** *Taught by members of the Departments of Classics, English and Comparative Literature, French, German, Italian, Middle East and Asian Languages and Cultures, Philosophy, Religion, Slavic Languages, and Spanish; and members of the Society of Fellows.* Major works by over twenty authors, ranging in time, theme, and genre from Homer to Virginia Woolf. Students are expected to write at least two papers, to complete two examinations each semester, and to participate actively in class discussions.

## Contemporary Civilization

**Chair of Contemporary Civilization:** Prof. Matthew Jones, 514 Fayerweather; 854-2421

*COCI C1101-C1102: Introduction to contemporary civilization in the west.* The central purpose of “Contemporary Civilization” or “CC” is to introduce students to a range of issues concerning the kinds of communities—political, social, moral, and religious—that human beings construct for themselves and the values that inform and define such communities; the course is intended to prepare students to become active and informed citizens. Founded in 1919 as a course on war and peace issues, Contemporary Civilization has evolved continuously, while remaining a constant and essential element of the Columbia College curriculum. The course asks students to read closely texts in various traditions of argument and to construct arguments of their own, both in speech and in writing, about some of the explicit and implicit issues these texts raise.

Both the form and the content of the course contribute to the achievement of its aims. The discussion format is intended to respond in a palpable way to the existence

in these traditions of different and often conflicting points of view; to embody the possibility of reasoned discourse among people who hold disparate convictions; and to help students sharpen their own skills of thought and argument about matters of current personal and civic concern through participating in and extending the debates of the past. The Contemporary Civilization syllabus introduces students to a set of ideas and arguments that have played a formative role in the political and cultural history of our time, alerts them to ideas that have not held an influential role in that history, and acquaints them with some exemplars of critical thinking about alternative cultures, institutions, and practices.

Because Contemporary Civilization is a yearlong course, readings are necessarily selective. While these readings change from time to time, the factors that lead to adoption of a text always include historical influence, the presentation of ideas of enduring importance, and the demonstrated ability of a text to provoke productive discussion. Among the readings currently required in the course are the Bible, the Qur'an, and works by Plato, Aristotle, Augustine, Machiavelli, Descartes, Hobbes, Locke, Hume, Smith, Rousseau, Kant, Burke, Tocqueville, Mill, Hegel, Marx, Darwin, Nietzsche, DuBois, Freud, and Woolf.

### Registration Procedure

All information concerning registration in *COCI C1101-C1102* is included in the registration materials sent to students. Students normally take Contemporary Civilization in their second year at Columbia.

### Courses of Instruction

#### **COCI C1101-C1102 Introduction to contemporary civilization in the West 4 pts.**

*Taught by members of the Departments of Anthropology, Architecture, Classics, English and Comparative Literature, French, German, History, Italian, Journalism, Middle East and Asian Languages and Cultures, Philosophy, Political Science, Religion, Slavic Languages, Sociology, and Spanish; members of the Society of Fellows and Senior Scholars.* Major works by over twenty authors, ranging from Plato to modern writers. Students are expected to write at least three papers, to complete two examinations each semester, and to participate actively in class discussions.

## Art Humanities

**Chair of Art Humanities:** Prof. Branden W. Joseph, 613 Schermerhorn, 854-2811

*HUMA W1121: Masterpieces of Western art.* “Art Humanities” has been a degree requirement for all College students and an integral part of the Core Curriculum since 1947. It teaches students how to look at, think about, and engage in critical discussion of the visual arts. It is not a historical survey, but an analytical study of a limited number of monuments and artists. The course focuses on the formal structure of works of architecture, sculpture, painting, and other media, as well as the historical contexts in which these works were made and understood. Among the topics included in the syllabus are the Parthenon, Amiens Cathedral, and works by Raphael, Michelangelo, Bruegel, Bernini, Rembrandt, Goya, Monet, Picasso, Wright, Le Corbusier, Pollock, and Warhol. In addition to discussion-based class meetings, all sections of Art Humanities make extensive use of the vast resources of New York City through field trips to museums, buildings, and monuments. A sophisticated website is an integral part of the course and can be viewed at <http://www.mcah.columbia.edu/arthanities/>.

### Registration Procedure

All information concerning registration in *HUMA W1121* is included in the registration materials sent to students. It is the expectation of the College that all students complete Art Humanities by the end of their third year.

## Courses of Instruction

**HUMA W1121 Masterpieces of Western art** 3 pts. Discussion and analysis of the artistic qualities and significance of selected works of painting, sculpture, and architecture from the Parthenon in Athens to works of the 20th century.

## Music Humanities

**Chair of Music Humanities:** Prof. Elaine Sisman, 604 Dodge Hall; 854-7728

*HUMA W1123: Masterpieces of Western music.* Part of the Core Curriculum since 1947, “Music Humanities” aims to instill in students a basic comprehension of the many forms of the Western musical imagination. Its specific goals are to awaken and encourage in students an appreciation of music in the Western world, to help them learn to respond intelligently to a variety of musical idioms, and to engage them in the issues of various debates about the character and purposes of music that have occupied composers and musical thinkers since ancient times. The course attempts to involve students actively in the process of critical listening, both in the classroom and in concerts that the students attend and write about. The extraordinary richness of musical life in New York is thus an integral part of the course. Although not a history of Western music, the course is taught in a chronological format and includes masterpieces by Josquin des Prez, Monteverdi, Bach, Handel, Mozart, Haydn, Beethoven, Verdi, Wagner, Schoenberg, and Stravinsky among others. Since 2004, the works of jazz composers and improvisers, such as Louis Armstrong, Duke Ellington, and Charlie Parker, have been added to the list of masterpieces to be studied in this class. Music Humanities digital resources can be viewed at <http://www.columbia.edu/itc/music>.

## Registration Procedure

All information concerning registration in *HUMA W1123* is included in the registration materials sent to students. It is the expectation of the College that all students complete Music Humanities by the end of their third year.

## Courses of Instruction

**HUMA W1123 Masterpieces of Western music** 3 pts. Analysis and discussion of representative works from the Middle Ages to the present.

## Frontiers of Science

**Chair (fall):** Prof. Darcy B. Kelley, 913 Fairchild; 854-5108

**Chair (spring):** Don Melnick, 10th Floor Schermerhorn Extension; 854-8182

*SCNC C1000 and SCNC C1100: Frontiers of science* is a one-semester course that integrates modern science into the Core Curriculum. The course includes lectures and seminar sections. On Mondays throughout the semester, each of Columbia’s leading scientists present a mini-series of lectures. During the rest of the week, senior faculty and Columbia post-doctoral science fellows (research scientists selected for their teaching abilities) lead seminar sections limited to twenty-two students to discuss the lecture and its associated readings, and debate the implications of the most recent scientific discoveries. *Frontiers of science* satisfies one of the three required courses of the science requirement for Columbia College.

## Registration Procedure

All information concerning registration in *SCNC C1000* is included in the registration materials sent to students. All first-year students are preregistered in *Frontiers of science* (one half of the alphabet in each semester). Prospective science majors who in their first-year are enrolled in:

1. Literature Humanities
2. A mathematics course

3. A language course at the elementary II level or above (i.e. *CHNS C1112*, *GERM V1102*, *SWHL W3302*, etc)
4. And one of the following science major sequences:
  - *CHEM C3045-C3046*
  - *PHYS C1601-C1602*
  - *PHYS C2801-C2802*

may petition the Committee on Science Instruction to be allowed to postpone taking *Frontiers of science* until their sophomore year. Students wishing to petition should do so in 208 Hamilton Hall.

### Courses of Instruction

**SCNC C1001 *Frontiers of science* 4 pts.** *Members of the natural science departments and Columbia post-doctoral science fellows.* Corequisite: *SCNC C1101 Frontiers of science discussion*. Lecture and discussion. The principal objectives of *Frontiers of science* are to engage students in the process of discovery by exploring topics at the forefront of science and to inculcate or reinforce the specific habits of mind that inform a scientific perspective on the world. Sample topics include the evolution of human language, brain dynamics, global climate change, the nanoworld, and biodiversity, among others.

### University Writing

**Director of the Undergraduate Writing Program:** Dr. Nicole B. Wallack  
**Undergraduate Writing Program Office:** 310 Philosophy; 854-3886; [uwp@columbia.edu](mailto:uwp@columbia.edu)

*ENGL C1010: University writing* facilitates students' entry into the intellectual life of the university by helping them to become more capable and independent readers and writers. With its small selection size and emphases on analysis, argumentation, revision, collaboration, and research, the course leads students to develop specific skills and general habits of mind important to their success as academic writers. Students read and discuss a range of contemporary essays, complete regular informal writing exercises, and write several longer essays.

### Writing Center

The Undergraduate Writing Program sponsors a writing center in 310 Philosophy Hall that offers individual writing instruction and consultations to students enrolled in Columbia University courses. Students may visit the center at any stage in the writing process. The writing center consultants are advanced graduate students who have had significant training and experience teaching writing at Columbia. Students may walk in during open hours or sign up for appointments. For more information, please contact the center at [writingcenter@columbia.edu](mailto:writingcenter@columbia.edu).

### Courses of Instruction

**ENGL C1010 *University writing* 3 pts.** Teaches general techniques and strategies for academic reading and writing. Students placed in *ENGL C1010* whose names fall in the first part of the alphabet take the course in the fall. Students whose names fall in the second part of the alphabet take the course in the spring. The alphabet is split somewhere between K and P; the exact place of the split is posted before fall registration.

### Foreign Language Requirement

The foreign language requirement forms part of Columbia College's mission to prepare students to be tomorrow's conscientious and informed citizens. Knowledge of another's language and literature is the most important way to begin to know a country and people. The study of a foreign language:

1. Introduces students to world cultures, also making them aware of their own culture within that context;
2. Informs students of the differences in structure, grammar, and syntax that distinguish languages from each other, and clarifies the intimate links between language and cultural meaning; and
3. Contributes to the development of students' critical, analytical, and writing skills.

The requirement may be satisfied in one of the following ways:

1. Satisfactory completion of the second term of an intermediate language sequence.
2. Demonstration of an equivalent competence through the appropriate score on the SAT II Subject Test or Advanced Placement Tests.
3. Demonstration of an equivalent competence through the College's own placement tests (consult the department through which the language is offered).
4. The successful completion of an advanced level foreign language or literature course that requires *1202* or the equivalent as a prerequisite. This course must be taken for a letter grade.
5. Students whose native language is not English are not required to take an additional foreign language or an achievement test if they have completed the secondary school requirement in the native language.

Because success in learning a foreign language is dependent on the full engagement of the students enrolled in a language course all terms of language instruction/conversation courses, whether being used toward fulfillment of the foreign language requirement or not, must be taken in order and for a letter grade. These courses may not be taken for a grade of Pass/D/Fail.

Students wishing to satisfy the requirement in any other language should consult with their advising dean. In some instances, equivalent language courses offered at Barnard College and in the School of General Studies may be used to satisfy the requirement, however, students should speak with the Columbia department to ensure that courses from these schools are approved for the requirement.

Any student who wishes to submit a language course taken at another institution in fulfillment of the language requirement must pass a departmental placement examination.

In order to ensure that students achieve foreign-language proficiency without a significant break in progress, this requirement must be completed before a student can be eligible to study abroad, even if the language of instruction of the study-abroad program is English. For students seeking to study abroad in other languages, more advanced foreign-language study is usually required (see *Special Programs*).

The following languages are offered in the College toward satisfaction of the requirement:

**Akkadian**

*Middle Eastern, South  
Asian, and African Studies*

**Arabic**

*Middle Eastern, South  
Asian, and African Studies*

**Armenian**

*Middle Eastern, South  
Asian, and African Studies*

**Bengali**

*The Language Resource  
Center*

**Catalan**

*Spanish and Portuguese*

**Chinese**

*East Asian Languages and  
Cultures*

**Czech**

*Slavic Languages*

**Dutch**

*Germanic Languages*

**Finnish**

*Germanic Languages*

**French**

*French and Romance  
Philology*

**German**

*Germanic Languages*

**Greek, Classical and  
Modern**

*Classics*

**Hebrew**

*Middle Eastern, South  
Asian, and African Studies*

**Hindi-Urdu**

*Middle Eastern, South  
Asian, and African Studies*

**Hungarian**

*The Language Resource  
Center*

**Italian**

*Italian*

**Japanese**

*East Asian Languages and  
Cultures*

**Korean**

*East Asian Languages and  
Cultures*

**Latin**

*Classics*

**Persian**

*Middle Eastern, South  
Asian, and African Studies*

**Polish**

*Slavic Languages*

**Portuguese**

*Spanish and Portuguese*

**Punjabi**

*Middle Eastern, South  
Asian, and African Studies*

**Romanian**

*The Language Resource  
Center*

**Russian**

*Slavic Languages*

**Sanskrit**

*Middle Eastern, South  
Asian, and African Studies*

**Serbo-Croatian**

*Slavic Languages*

**Spanish**

*Spanish and Portuguese*

**Swahili**

*The Language Resource  
Center*

**Swedish**

*Germanic Languages*

**Tagalog**

*The Language Resource  
Center*

**Tamil**

*The Language Resource  
Center*

**Tibetan**

*East Asian Languages and  
Cultures*

**Turkish, Modern**

*Middle Eastern, South  
Asian, and African Studies*

**Ukrainian**

*Slavic Languages*

**Vietnamese**

*East Asian Languages and  
Cultures*

**Yiddish**

*Germanic Languages*

## Global Core Requirement

**General Information:** Office of Fellowship Programs and Study Abroad, 105 Carman;  
854-7444

**Current List:** <http://www.college.columbia.edu/bulletin/core/gc.php>

The Global Core requirement asks students to engage directly with the variety of civilizations and the diversity of traditions that, along with the West, have formed the world and continue to interact in it today. Courses in the Global Core typically explore the cultures of Africa, Asia, the Americas, and the Middle East in an historical context. These courses are organized around a set of primary materials produced in these traditions and may draw from texts or other forms of media, as well as from oral sources or performance. Global Core courses fall into two categories: those that focus on a specific culture or civilization, tracing its existence across a significant span of time; and those that address a common theme or set of analytic questions comparatively (and may include Europe and the West).

Students must complete two courses from the *Global Core List of Approved Courses* for a letter grade.

## Science Requirement

**General Information:** Office of the Dean, 208 Hamilton; 854-2441

**Current List:** <http://www.college.columbia.edu/bulletin/core/science.php>

The objective of the science component of Columbia College's Core Curriculum is identical to that of its humanities and social science counterparts, namely to help students "to understand the civilization of their own day and to participate effectively in it." The science component is intended specifically to provide students with the opportunity to learn what kinds of questions are asked about nature, how hypotheses are tested against experimental or observational evidence, how results of tests are evaluated, and what knowledge has been accumulated about the workings of the natural world.

Three courses (at least 10 points) must be completed to meet this portion of the Core Curriculum.

Students normally take *SCNC C1000 Frontiers of science* in their first-year in the term in which they are not taking *ENGL C1010 University writing*.

For the remainder of the requirement students may choose any two courses from the list of approved courses below. These courses may be taken in the same department or in different departments. However, at least one course must be taken in the Departments of Astronomy; Biological Sciences; Chemistry; Earth and Environmental Sciences; Ecology, Evolution, and Environmental Biology; Physics; or Psychology.

Students who wish to request an exception to these policies must petition the Committee on Science Instruction (202 Hamilton) **prior** to their final term at the College.

### COURSES APPROVED FOR THE SCIENCE REQUIREMENT

Unless otherwise indicated, students may not use Barnard College courses to fulfill the Columbia College science requirement.

Students who wish to have a course not included on the list below count toward fulfilling the science requirement must petition the Committee on Science Instruction (202 Hamilton) **prior** to registration for the term in which they intend to take the course.

Students should pay careful attention to the prerequisites and instructor approvals required for certain courses. Prerequisite and instructor approval requirements can be found in the course descriptions for each course located in specific departments' sections of this bulletin.

While students are not required to complete a two-term sequence, students may choose to do so. For this reason, the Committee on Science Instruction has indicated recommended sequences below. Unless otherwise noted, the first course in the sequence must be taken before the second course in the sequence.

#### Courses Designed for Nonscience Majors:

##### ASTRONOMY [ASTR]:

*ASTR C1234 The universal timekeeper: an introduction to scientific habits of mind, I*

*ASTR C1235 The universal timekeeper: an introduction to scientific habits of mind, II*

*ASTR C1403 Earth, moon, and planets*

*ASTR C1404 Beyond the solar system*

*ASTR C1420 Galaxies and cosmology*

*ASTR C1610 The universe: from Babylon to the big bang*

*ASTR BC1753 Introduction to astronomy, I*

*ASTR BC1754 Introduction to astronomy, II*

*ASTR C1836 Stars and atoms*

**Recommended Sequences:**

*ASTR C1234-C1235*

*ASTR C1403 and either C1404, C1420, BC1754, or C1836*

*ASTR BC1753 and either C1404 or BC1754*

**BIOLOGY [BIOL]:**

*BIOL C1002 Theory and practice of science: biology*

*BIOL C1015 Molecular biology and evolution for nonscientists*

*BIOL W1130 Genes and development*

**COMPUTER SCIENCE [COMS]:**

*COMS W1001, Introduction to information science*

**EARTH AND ENVIRONMENTAL ENGINEERING [EAEE]:**

*EAEE E1100, A better planet by design*

**EARTH AND ENVIRONMENTAL SCIENCES [EESC]:**

*EESC V1001 Dinosaurs and the history of life: lectures and lab*

*EESC V1003 Climate and society: case studies*

*EESC V1011 Earth: origin, evolution, processes, future: lectures and lab*

*EESC V1030 Oceanography*

*EESC V1053 Planet Earth*

*EESC V1201 Environmental risks and disasters*

*EESC V1401 Dinosaurs and the history of life: lectures*

*EESC V1411 Earth: origin, evolution, processes, future: lectures*

*EESC V1412 Introduction to Earth sciences, II: lectures*

*EESC V1600 Earth resources and sustainable development*

*EESC W3018 Weapons of mass destruction*

**Recommended Sequences:**

*EESC V1011 and either V1012 or V1412*

*EESC V1411 and either V1012 or V1412*

**ECOLOGY, EVOLUTION, AND ENVIRONMENTAL BIOLOGY [EEEB]:**

*EEEB W1001 Biodiversity*

*EEEB V1010 Human species*

*EEEB V1011 Behavioral biology of the living primates*

**Recommended Sequences:**

*EEEB W1001-W3087 (see Additional Courses Approved for the Science Requirement)*

*EEEB V1010-V1011*



**ELECTRICAL ENGINEERING [ELEN]:**

*ELEN E1101 The digital information age*

**MATHEMATICS [MATH]:**

For descriptions of the following courses, which may be used as courses in mathematics in partial fulfillment of the science requirement, see *Departments of Instruction—Philosophy*.

*PHIL V3411 Symbolic logic*

*PHIL W4431 Introduction to set theory*

*PHIL G4424 Modal logic*

**PHYSICS [PHYS]:**

*PHYS C1001 Physics for poets, I*

*PHYS C1002 Physics for poets, II*

**Recommended Sequences:**

*PHYS C1001-C1002*

**PSYCHOLOGY [PSYC]:**

*PSYC W1001 The science of psychology*

*PSYC W1010 Mind, brain, and behavior*

**Recommended Sequences:**

*PSYC W1001* and either *W1010* or any *PSYC* course numbered 22xx or 24xx or any 3-point course numbered 32xx, 34xx, 42xx, or 44xx (see Additional Courses Approved for the Science Requirement). 2600-level psychology courses may not be used to fulfill the science requirement.

*PSYC W1010* and either *W1001* or any *PSYC* course numbered 22xx or 24xx or any 3-point course numbered 32xx, 34xx, 42xx, or 44xx (see Additional Courses Approved for the Science Requirement). 2600-level psychology courses may not be used to fulfill the science requirement.

**SCIENCE [SCNC]:**

*SCNC W1800 From the conservation of energy to energy conservation*

**STATISTICS [STAT]:**

*STAT W1001 Introduction to statistical reasoning*

**Additional Courses Approved for the Science Requirement:**

Most of the following courses have required prerequisites and/or require instructor approval. Prerequisite and instructor approval requirements can be found in the course descriptions for each course located in specific departments' sections of the on-line bulletin.

**ASTRONOMY [ASTR]:**

Any 3 point course numbered 2000 or higher

**BIOLOGY [BIOL]:**

Any 3 point course numbered 2000 or higher

**CHEMISTRY [CHEM]:**

*CHEM C1403 General chemistry, I*

*CHEM C1404 General chemistry, II*

*CHEM C1500 General chemistry: laboratory*

*CHEM BC1601 General chemistry, I*

*CHEM BC1602 General chemistry, II*

*CHEM C2407 Intensive general chemistry: lecture*

*CHEM C2507 Intensive general chemistry: laboratory*

Any course numbered 3000 or higher

#### **COMPUTER SCIENCE [COMP]:**

*COMS W1003 Introduction to computer science and programming in C*

*COMS W1004 Introduction to computer science and programming in JAVA*

*COMS W1005 Introduction to computer science and programming in MATLAB*

*COMS W1007 Object-oriented programming and design in JAVA*

*COMS W1009 Honors introduction to computer science*

Any 3-point course numbered 3000 or higher

#### **EARTH AND ENVIRONMENTAL SCIENCES [EESC]:**

*EESC V2100 Earth's environmental systems: the climate system*

*EESC V2200 Earth's environmental systems: the solid Earth system*

*EESC V2300 Earth's environmental systems: the life system*

Any course numbered 3000 or higher

#### **ECOLOGY, EVOLUTION, AND ENVIRONMENTAL BIOLOGY [EEEB]:**

*EEEB W2001 Environmental biology, I*

*EEEB W2002 Environmental biology, II*

*EEEB W3087 Conservation biology*

Any course numbered 3000 or higher except W4700.

#### **MATHEMATICS [MATH]:**

Any 3-point MATH course numbered 1100 or higher

For descriptions of the following courses, which may be used as courses in mathematics in partial fulfillment of the science requirement, see *Departments of Instruction–Philosophy*.

*PHIL G4801 Mathematical logic, I: the completeness result*

*PHIL G4802 The incompleteness results in logic*

#### **PHYSICS [PHYS]:**

*PHYS F1201 / V1201 / W1201 General physics: without calculus*

*PHYS F1202 / V1202 / W1202 General physics: without calculus*

*PHYS V1301 Honors general physics: with calculus*

*PHYS V1302 Honors general physics: with calculus*

*PHYS C1401 Introduction to mechanics and thermodynamics*

*PHYS C1402 Introduction to electricity, magnetism, and optics*

*PHYS C1403, Introduction to classical and quantum waves*

*PHYS C1601 Physics I: mechanics and relativity*

*PHYS C1602 Physics II: thermodynamics, electricity, and magnetism*

Any 3-point course numbered 2000 or higher

**PSYCHOLOGY [PSYC]:**

Any 3-point course numbered 32xx, 34xx, 42xx, or 44xx

**STATISTICS [STAT]:**

Any 3-point course except *STAT C3997*

**Special Summer Program:**

The following special program fulfills two of the three terms of the science requirement.

**CENTER FOR ENVIRONMENTAL RESEARCH AND CONVERSATION [CERC]:**

Summer ecosystem experience for undergraduates: locations change yearly. Check with the center in the spring semester for details.

**Physical Education Requirement**

**General Information:** Physical Education Department, Dodge Physical Fitness Center, 854-3439

Passing *Physical Education PHED C1001-C1002* is a requirement for the degree. All students are also required to pass a swimming test or take beginning swimming for one term to fulfill the swimming requirement. Students may not register for more than one section of physical education each term. Students who fulfill the attendance participation requirements for the course will pass the course. **Students who are absent more than the permissible number of times will be given a UW (unofficial withdrawal), unless they file a drop form with the Department of Physical Education by the official deadline to drop a course.**

No more than 4 points of physical education courses may be counted toward the degree. Barnard courses may be taken in satisfaction of this requirement; however, only students who have taken a Columbia physical education course and fulfilled the swimming requirement are eligible to register for these Barnard courses.

A student who intends to participate in an intercollegiate sport should register for the appropriate section of *PHED C1005—Intercollegiate athletics*. Intercollegiate athletes who attend regularly receive 1 point of credit up to a maximum of 4. Student athletes who leave the team in mid-term but want academic credit must notify the Physical Education Office and be placed in another physical education activity to complete the attendance requirement. Student athletes are also responsible for fulfilling the swimming requirement.

**Eligibility for Intercollegiate Athletics**

Any student in the College who is pursuing the undergraduate program or a combined program toward a first degree is eligible for intercollegiate athletics. To be eligible for athletic activities, the student must make appropriate progress toward the degree as defined by the NCAA, the Ivy League, and Columbia University. These criteria are monitored by the Faculty Athletics Committee and the Office of Student Affairs and certified by the Office of the Registrar.

Questions about athletic eligibility should be referred to the appropriate advising dean or the compliance office in the Department of Intercollegiate Athletics and Physical Education.

For more information visit the Department of Intercollegiate Athletics and Physical Education website.

# Programs of Study

## PLANNING A PROGRAM

There are many advising opportunities for incoming students in the summer prior to matriculation. In the summer, each incoming student receives the *Columbia Academic Planning Guide for Incoming Students*, also available on the website of the Center for Student Advising. This publication helps incoming first-year and transfer students to begin thinking about ways in which to create a first-semester program.

Each first-year student is preregistered for Literature Humanities as well as *Frontiers of science* or *University writing*. First-year students who are preregistered for either *Frontiers of science* or *University writing* in the fall term take the other course in the spring term. During New Student Orientation, each incoming student meets with their advising dean in the Center for Student Advising to begin the process of finalizing the fall program. After the advising portion of the New Student Orientation Program is completed, each student registers for electives and/or additional required courses to complete the fall term schedule. Suggested programs directed toward professional or graduate studies are described under *Special Programs* and serve as guides. Some majors and concentrations require that certain introductory courses be completed before the start of the junior year. Students should read carefully the degree requirements for the majors and concentrations in which they have an interest. All students should:

1. Become thoroughly familiar with the requirements for the degree and with the College regulations;
2. Arrange, if possible, to complete certain required Core and major courses by the end of the sophomore year (Contemporary Civilization *COCI C1101-COCI C1102* and Literature Humanities *HUMA C1001-HUMA C1002* **must** be completed by the end of the junior year); and
3. Choose a major or concentration in their fourth term. Students must submit the completed major declaration form on-line or to the Center for Student Advising. Some majors and concentrations require departmental review and students can only declare these majors after receiving approval by the department. A major or concentration may be changed at any time as long as the requirements have been fulfilled and the student can still graduate by the end of their eighth semester. If a different major or concentration is decided upon, a new form must be filed with the Center for Student Advising.

## On-Line Resources for Planning a Program

URL: <http://www.college.columbia.edu/>

The information contained in this bulletin as well as additional information for planning a program is available on-line in the Academics area of the Columbia College website. This includes a fully searchable version of the bulletin course listings, that integrates the University's on-line *Directory of Classes*, major advising information, and links to departmental home pages.

Departmental home pages may contain faculty listings as well as fields of specialization and/or research; on-line instructional resources (such as course syllabi, multimedia resources, links to research readings, library resources, and other useful sites); and departmental news, events, and lectures.

## PLACEMENT AND CREDIT

### Placement Examinations

First-year students can select appropriate levels in French, German, Latin, Italian, or Spanish on the basis of scores on SAT II: Subject Tests or Advanced Placement Examinations in these subjects. All continuing language students who have not taken one of these tests **must** take a Columbia placement examination in order to enroll in language study at Columbia. The exact times and dates of examinations are provided in the orientation schedule distributed to first-year students when they arrive on

campus. Upperclass students should contact departments before the beginning of each semester to inquire about placement examination possibilities other than those provided during student orientation.

## Credit

The College grants up to one semester (16 points) of college-level work completed before matriculation at Columbia College. This work may be done under the auspices of the Advanced Placement Program of the College Board, GCE Advanced Level Examinations, the International Baccalaureate Examination, or other national systems described below. In addition, the College considers a maximum of 6 points for college courses taken after graduation from secondary school and prior to matriculation at Columbia. Those who enter as first-year students are subject to all rules for first-year students in their first two terms regardless of the number of credits earned from any of the approved advanced standing programs. Students who wish to receive advanced credit or an exemption for the language requirement may not take courses at Columbia that cover similar or more basic material than the advanced work already completed, nor may a student receive credit for two exams that cover the same material (for example, Calculus Advanced Placement and Mathematics GCE Advanced Level Exam). In some cases, credit is awarded when a student successfully completes the course into which placement was awarded (or, in some cases the College requires a student to complete a particular course in order to receive advanced credit). The actual determination of advanced credit is done after the student matriculates in accordance with stated departmental and College policies and is awarded upon completion of the first year at Columbia. A more detailed explanation of particular programs follows.

## ADVANCED PLACEMENT EXAMINATIONS

College Board Advanced Placement scores cannot be used toward exemption from any of the Core Curriculum courses; however, scores may be used toward satisfying the foreign language requirement (see *The Core Curriculum*—Foreign Language Requirement).

Each year individual departments review the College Board Advanced Placement curriculum and make determinations as to appropriate placements, credit, and/or exemptions. For students entering the College in the 2011–2012 academic year, Advanced Placement credit may be awarded in the following subjects. Students should refer to the department sections in this bulletin for specific information on credit granted, placement, and exemptions.

Subject	Department
Biology	Biological Sciences
Chemistry	Chemistry
Computer Science	Computer Science
Economics	Economics
English	English and Comparative Literature
French	French and Romance Philology
German	Germanic Languages
Government and Politics	Political Science
History	History
Italian	Italian
Latin	Classics
Mathematics	Mathematics
Music	Music
Physics	Physics
Spanish	Spanish and Portuguese
Statistics	Statistics

## INTERNATIONAL BACCALAUREATE

Entering students are granted 6 points of credit for each score of 6 or 7 on IB Higher Level examinations if taken in disciplines offered as undergraduate programs at Columbia College and for a maximum of 16 points in total of advanced placement credit.

## BRITISH ADVANCED LEVEL EXAMINATIONS

Students with grades of A or B on British Advanced Level examinations are granted 6 points of credit for each if the examinations were taken in disciplines offered as undergraduate programs at Columbia College up to a maximum of 16 points in total of advanced placement credit. The appropriate transcript should be submitted to the Center for Student Advising, 403 Lerner.

## OTHER NATIONAL SYSTEMS

Pending review by the appropriate department at Columbia, students whose secondary school work was in other national systems such as the French *Baccalauréat* may be granted credit in certain disciplines for sufficiently high scores. The appropriate transcript should be submitted to the Center for Student Advising, 403 Lerner.

## ADVANCED STANDING

Entering first-year students are not granted credit for courses taken at other colleges before graduation from secondary school. Six points of credit is the maximum allowed for college courses taken after graduation from secondary school. The appropriate transcript should be submitted to the Center for Student Advising, 403 Lerner. Credit is not given automatically, but only after a review of the course description. A grade of B– or better is required.

For information about SAT II: Subject Tests and about courses in other divisions of the University, see *Admission and Programs of Study*. For information about advanced standing for transfer students, see *Requirements for the Degree of Bachelor of Arts*.

## MAJORS AND CONCENTRATIONS

### Interdisciplinary and Interdepartmental Majors and Concentrations

Interdisciplinary and interdepartmental majors and concentrations combine course work in two or more areas of study. Interdisciplinary majors and concentrations are linked to the interdisciplinary programs (see *Departments of Instruction*). Interdepartmental majors and concentrations are linked to two or more departments (see *Departments of Instruction*).

### Independent Majors and Concentrations

A student who wishes to arrange an independent major or concentration must receive written permission from the Committee on Instruction. Interested students should meet with the Coordinator for Academic Affairs as early as possible in the academic year to discuss the procedures for submitting a formal proposal to the Committee. Proposals must be submitted in the sophomore year no later than March 31.

### Double Majors/Concentrations

All students attempting to complete double majors, double concentrations, or a combination of a major and a concentration should keep in mind that they must complete separate sets of **required** and **related** courses for each field. A single course may not be counted twice for more than one major or concentration.

## RULES AND PROCEDURES GOVERNING PROGRAMS OF STUDY

### Attendance

Students are expected to attend their classes and laboratory periods. Instructors may take attendance into account in assessing a student's performance and may require a certain level of attendance for passing a course. Students are held accountable for absences incurred owing to late enrollment. For additional information see *College and University Policies*—Religious Holidays.

### Points per Term

A student must register for no fewer than 12 points per term. Students must petition the Committee on Academic Standing in order to register for more than 22 points. First-year students may not petition to register for more than 22 points in their first semester.

### Supervised Independent Study

Supervised individual work on a special topic is available to qualified students as an alternative or as a supplement to courses and seminars in the field of specialization. The student must develop a plan of study with a faculty adviser and then obtain the approval of the department. Progress reports are submitted as required. From 1 to 6 points of credit may be awarded for this work; the exact number of points is to be determined in consultation with the department.

Ordinarily, only seniors are allowed to register for independent study, although other students may be admitted at the discretion of the departmental representative. Acceptance depends on both the quality of the proposal and the student's own qualifications.

### Study Outside Columbia University

Permission to study at another school for a term or a year is granted only for study at institutions outside of the United States and must be part of an approved study abroad program. Exceptions may be granted for study during the summer. Please see *Programs of Study*—Summer School Courses Taken Outside Columbia, below for more information.

### The Columbia Summer Session

Normally credit for summer school is given to College students only for courses taken in the Columbia Summer Session. There is a 16-point limit for the entire Summer Session, with no more than 8 points in any Summer Session period or in overlapping periods.

All students registered in Columbia College during the regular academic year may elect one course each semester during the regular academic year on a Pass/D/Fail basis. This is in addition to any courses that are given only on a Pass/D/Fail basis. Students who do not utilize both Pass/D/Fail options during the academic year may elect, in the summer immediately following, to take one Summer Session course on a Pass/D/Fail basis. For additional information on and restrictions governing Pass/D/Fail credit, see *Programs of Study*—The Pass/D/Fail Option, in this bulletin.

Students who plan to take any courses toward their major or concentration must consult with their major department. **Not all courses in the Summer Session Bulletin are accepted by Columbia College for credit.** Students should also consult the annually updated List of Approved Summer Courses in the Office of the Dean, 208 Hamilton, or in the Center for Student Advising.

### Summer School Courses Taken Outside Columbia

Students who wish to receive credit for summer school courses taken outside Columbia *must*:

1. Obtain a copy of Columbia College's Summer Credit policy and accompanying forms. These are available the Center for Student Advising.
2. Read carefully the procedures to follow to apply for such credit. Please note that Permission to take classes outside of Columbia is normally given only when a student has fallen behind in credits, when the student is taking a language course, or when the summer course is a prerequisite for a course that must be taken in the Fall.
3. Fill out the necessary forms obtained from the Center of Student Advising. Students must outline their reasons for wishing to take summer courses and list the specific courses in which they wish to enroll. This form is submitted to the Committee on Academic Standing, which determines whether or not summer school courses are approved for credit.
4. Follow the specific instructions students are given on how to proceed.
5. Students may not study abroad during the summer except in Columbia-sponsored programs, or approved language, archaeology, and field-studies programs. Students may obtain a Summer Study Abroad Credit and Course Approval Form from the Assistant Dean of Academic Affairs and Study Abroad in 105 Carman.
6. Students applying for summer school credit for courses that they wish to use in partial fulfillment of the science or Global Core requirements **must** submit a science or Global Core course approval petition for approval by the appropriate faculty committee. Approval to receive credit for summer school courses does **not** ensure approval of the course toward one of these requirements.

### **Courses Taken in Other Columbia Undergraduate Schools and the Graduate School of Arts and Sciences**

None of the courses listed in this bulletin nor in the bulletins of Barnard College and the School of General Studies require any special approval for enrollment unless so indicated in various programs and course descriptions.

### **EDUCATION PROGRAM**

Courses are open only to students enrolled in the Education Program.

### **THE FU FOUNDATION SCHOOL OF ENGINEERING AND APPLIED SCIENCE**

A maximum of four courses may be taken on a space-available basis. The four-course limit does not apply to students in the 3-2 program.

### **GRADUATE SCHOOL OF ARTS AND SCIENCES**

Courses may be taken by qualified undergraduates with the permission of the director of undergraduate studies in the department in which the course is taught.

### **Courses Taken in Other Divisions of the University**

Students have available to them a number of courses offered by some professional schools of the University and may take a maximum of four courses for elective credit and apply those points toward the 124 points necessary for their degree.

Those students who wish to take such a course and not count it toward the 124 points necessary for the undergraduate degree need only receive the permission of their advising dean. In either instance, the student **must** follow the policies established by the various professional schools, **must** have the permission of the instructor of the course he or she wishes to take, and in some instances must have the permission of the school in which the course is offered. Following is a list of schools and programs that allow undergraduates to register for courses, with their policies regarding the enrollment of Columbia College students. Students wishing to take a course in a Columbia school not listed below should first consult with their advising dean.



## **GRADUATE SCHOOL OF ARCHITECTURE, PLANNING, AND PRESERVATION**

Lectures may be taken on a space-available basis by qualified undergraduates. Undergraduates are not allowed to enroll in any seminars or studio courses.

## **SCHOOL OF THE ARTS**

Graduate courses may be taken on a space-available basis by qualified undergraduates.

## **GRADUATE SCHOOL OF BUSINESS**

Courses designed specifically for undergraduates can be found in *Departments of Instruction*—Business in the on-line Columbia College Bulletin. Other Business School courses may only be taken on a space-available basis by seniors who have completed the required prerequisites. Students must have signed permission from the Center for Student Advising. Deadlines are often earlier than the College registration and change-of-periods.

## **SCHOOL OF CONTINUING EDUCATION**

Columbia College students are not allowed to enroll during the academic year in courses offered through the School of Continuing Education. The School of Continuing Education sponsors the Summer Term at Columbia. For additional information on taking courses at Columbia during the summer please see The Columbia Summer Term section of this bulletin.

## **SCHOOL OF INTERNATIONAL AND PUBLIC AFFAIRS**

Open Enrollment Courses are open to all Columbia students unless the class is full. Students interested in registering for a SIPA Open Enrollment Course may receive permission to enroll by completing a Registration and Drop/Add form and submitting it to the SIPA Registration site on the 6th floor of the International Affairs Building. If the class is not full, approval will be granted.

## **SCHOOL OF JOURNALISM**

Courses may be taken on a space-available basis. Students must have signed permission from the School of Journalism Office of the Associate Dean of Academic Affairs, 407E Journalism.

## **LAW SCHOOL**

Courses may be taken only by students in the AILE program. Students must have signed permission from the Law School Office of the Assistant Dean of Academic Services, 500 William and June Warren Hall.

## **SCHOOL OF SOCIAL WORK**

Courses may be taken on a space-available basis.

## **TEACHERS COLLEGE**

Normally, students are not allowed to enroll in courses offered through Teachers College. Exceptions to this policy may be granted under the following circumstances by submitting a petition to the Dean of Academic Affairs of Columbia College, 208 Hamilton Hall:

1. Courses that are not offered at Columbia but are deemed essential to a student's undergraduate program of study.
2. Instrumental music instruction course (e.g., piano). In this instance, students are charged per credit for the course over and above their Columbia tuition.

## **Graduate Courses Taken by Undergraduates for Graduate Credit**

An undergraduate in the College may take graduate courses at Columbia and apply the earned credit toward a Columbia M.A. or Ph.D. degree, assuming admission to the Graduate School of Arts and Sciences, under the following conditions:

1. The work must be in excess of the 124 points required for the B.A. degree.
2. The student must obtain the approval of both the graduate department(s) offering the course(s) and the undergraduate department in which he or she is majoring or concentrating.
3. A course used to fulfill a requirement for the B.A. degree may not be counted toward graduate credit.
4. The maximum amount of graduate credit that an undergraduate can earn is two Residence Units toward the Ph.D. degree requirement, only one of which may be applied toward the M.A. degree requirement.
5. Courses that a student completes while registered in the Columbia Summer Session may not be credited toward the completion of degree requirements in the Graduate School.

## **EXAMINATIONS**

### **Midterm Examinations**

These are generally scheduled by instructors in late October and the middle of March.

### **Final Examinations**

These are given at the end of each term. The Master University Examination Schedule is available on-line at <http://ssol.columbia.edu/>. This provides a tentative guide to final examinations. The definitive schedule of final examinations is usually available by November 1 for the fall term and by April 1 for the spring term. This schedule is sent to all academic departments and is also available for viewing on ColumbiaNet, as well as ColumbiaWeb. Examinations will not be rescheduled to accommodate travel plans.

### **Examination Conflicts**

If a student has three examinations scheduled during one calendar day, as certified by the Registrar, the student may request an arrangement be made with one of the student's instructors to take that examination at another, mutually convenient time during the final examination period. This refers to a calendar day, not a twenty-four hour period. Students unable to make suitable arrangements on their own should contact their advising dean for assistance.

## **GRADES**

The grading system is as follows: A, excellent; B, good; C, fair; D, poor but passing; F, failure (a final grade, not subject to reexamination). Plus and minus grades may also be used, except with D or F. Pass (P) is used for students who elect this option.

The Committee on Instruction of Columbia College has instructed the Registrar to calculate a cumulative grade point average for external purposes such as official transcripts. The Registrar also calculates term and cumulative grade point averages for internal purposes such as determining eligibility for the Dean's List.

### **Percentage of A Grades Calculation**

College transcripts note the percentage of grades in the A range in all lecture classes with at least twelve students and in all Colloquia and seminar classes with at least twenty-three students, in accordance with the grading policies of the Faculty of Columbia College. (R grades are excluded from this calculation.)

When the Registrar computes a student's Columbia College grade point average, only grades earned while enrolled in the College in the fall, spring, and summer terms are counted. Courses are weighted according to the number of credits.

The following scale is used:

A+ = 4.33	B+ = 3.33	C+ = 2.33	D = 1.0
A = 4.0	B = 3.0	C = 2.0	F = 0
A- = 3.67	B- = 2.67	C- = 1.67	

### **The Pass/D/Fail Option**

All students registered in Columbia College during the regular academic year may elect one course each semester during the regular academic year on a Pass/D/Fail basis. This is in addition to any courses that are given only on a Pass/Fail basis. Students who do not utilize both Pass/D/Fail options during the academic year may elect, in the summer immediately following, to take one Summer Term course on a Pass/D/Fail basis. Courses used to meet the stated degree requirements (except those only given on a Pass/Fail basis) may not be taken Pass/D/Fail. All courses used to meet the requirements of a major or concentration, including related courses, are also excluded from this option, except the first such one-term course taken by the student in his or her eventual major, unless otherwise specified by the department.

The purposes of this option are to encourage students to take courses of interest to them outside of the field of specialization and to permit those who have not decided upon a major to test their talents in a particular field that may be of interest. Students who wish to exercise the Pass/D/Fail option must designate a course for the grade of Pass/D/Fail when registering for each term in the College. A Pass/D/Fail course may be changed to a regular course or a regular course to a Pass/D/Fail course until November 17 in the fall term and until March 22 in the spring term during the academic year 2011–2012 regardless of whether a student has received a midterm grade for the class before that date.

In order to encourage students to engage more fully in the courses they elect to take for a grade of Pass/D/Fail students are allowed to uncover a grade of Pass within two weeks of the start of the semester immediately following that in which the grade of Pass was received. Students have until the end of the add period in the spring semester to uncover the grade of a fall course and until the end of the add period in the fall semester to uncover the grade of a spring or summer term course.

The grade of Pass is not used in calculating grade point average; the grades of D and Fail are used.

### **The Grade of D**

No more than 6 points of D may be credited to the degree in any academic year and no more than a cumulative total of 12 points of D may be credited toward the degree. Degree credit for D work is awarded only for courses listed in this bulletin and for other courses taken while the student is enrolled in Columbia College. The decision as to whether or not a D may be used to satisfy the requirements for the major is made in each department.

### **The Grade of UW (unofficial withdrawal)**

Given to students who have not officially dropped a course and who *have not* completed any substantive work in the course. However, for students who have not officially dropped a course but who *have* completed substantive work, such as a paper or a midterm examination, the uncompleted work may be averaged into the final grade as a “zero” or an “F,” and the instructor may compute and award a final course grade. A UW is a permanent grade and will remain on the transcript even if the student repeats the course.

### **The Mark of W (withdrawal)**

With the approval of their advising dean students may elect to drop a course after the drop deadline but by the end of the Pass/D/Fail deadline resulting in the mark of W. This is a permanent mark, and remains on the transcript even if the student repeats the course for credit. Students should be aware that they may not drop or withdraw from a course if it will put them below 12 credits for the semester.

### **The Mark of AR (administrative referral)**

Given to students as a temporary grade in circumstances when a student's irregular academic behavior in class merits something other than grades A through F. A grade of AR will alert the advising deans, who will follow up with the individual student and with the instructor to help determine what final grade (A through F or, if applicable, UW) is appropriate.

Ultimately, the decision as to what the final grade should be will rest with the individual instructor. AR is not a permanent grade but, rather, is designed to allow faculty a reasonable default grade for use until an appropriate permanent grade can be submitted.

### **The Mark of INC (incomplete)**

Granted by the Committee on Academic Standing, for students who cannot complete their course work or are unable to take a final examination. The only reasons for which an INC will be granted are incapacitating illness, as certified by Health Services at Columbia, serious family emergency, or circumstances of comparable gravity. Students who wish to receive the mark of INC must petition the Committee in writing (petition forms are available in the class center offices) before the last day of classes, in the case of course work, or no later than the day before the final examination when requesting permission to miss the examination. To be granted an INC, it is expected that students will have completed all work in the class with the exception of the final project or exam. Students who are granted an INC are assigned a deadline for completion of the overdue work or a date by which a deferred examination must be taken. Those who fail to meet the assigned deadline or miss the deferred examination will then have the missing work graded as a "zero" and the grade for the course calculated accordingly.

### **The Mark of R (registration credit)**

No point credit is given for R credit. Students who take a course for R credit may be required to complete certain work as specified by the instructor. The exact nature of the work should be determined by the instructor when the student registers for the course. An instructor may fail a student who has not completed assigned work. The deadline for registering for R credit is November 17 in the fall term and until March 22 in the spring term during the academic year 2011-2012. Registering for R credit is allowed only when:

1. the courses are in excess of the 124 points required for the B.A. degree;
2. the courses are taken in the last two terms of the student's attendance in Columbia College;
3. the courses are not used to fulfill a requirement for the B.A. degree;
4. the student has the permission of the academic adviser and the instructor involved.

### **The Mark of YC (year course)**

A mark given at the end of the first term of a course in which the full year's work must be completed before a qualitative grade is assigned. The grade given at the end of the second term is the grade for the entire course.

### **The Mark of CP (credit pending)**

With specific permission of the Columbia College Committee on Instruction, certain seminars may allow students to complete their research over the winter break and submit their final papers on a pre-arranged date after the start of the spring term. In such instances a grade of CP will appear on the students' transcripts until the final grade is submitted. Please note that the grade of CP cannot be used for individual students but, rather, can only be granted on a course-wide basis.

**Report of Grades**

Grades are available via the Web (<http://ssol.columbia.edu>) on the first business day after they are received by the Registrar. Transcripts (no fee) may be ordered by currently enrolled students in 205 Kent or via SSOL. Students who find discrepancies in or have questions about their records should see or write the Academic Records and Grades Division, Student Service Center, 205 Kent, as soon as possible.

## Special Programs

Columbia offers a variety of special study abroad programs, exchange programs, and special courses of study for students interested in health and teaching, as well as several joint graduate and professional programs.

### STUDY ABROAD

Studying in a foreign country for a semester or year represents a significant enhancement to the Columbia College education. Study abroad expands the walls of the institution and offers students the opportunity to gain first-hand experience of the larger global community of which we all take part. Students engaged in international study discover insights into other cultures, develop new perspectives, and learn to reflect on how their own culture has shaped their understanding of the world. Students interested in studying abroad should visit the Office of Global Programs (606 Kent) as early as possible to discuss their academic goals and to develop a plan for integrating international study into their curriculum.

The College maintains the authority over students' participation in study-abroad programs and upholds standards for all potential candidates. To be eligible for participation in a Columbia-approved study abroad program, students must have a minimum GPA of 3.0 and be making progress toward finishing the Core Curriculum. The Core language requirement must be completed and advanced language prerequisites may apply. Study abroad candidates must complete at least one course pertaining to the country or region where they intend to study. A review of each student's academic and disciplinary records is conducted as a part of the required clearance process. Students on academic or disciplinary probation are not permitted to study abroad during the term of their probation.

It is generally possible to arrange for study in most foreign countries through programs sponsored by Columbia or by other American institutions, or through direct application to foreign universities. Such studies may be approved for one to two terms in the junior years.

Students on Columbia-sponsored programs at Reid Hall in Paris, the Berlin Consortium for German Studies, the Kyoto Center for Japanese Studies, and the Columbia in Beijing Program at Tsinghua University, and the Consortium for Advanced Studies in Barcelona receive direct Columbia credit for their courses. Credit from outside approved programs is certified as transfer credit toward the degree when the student returns to the College and upon receipt of appropriate transcripts and other supporting materials. College transfer students should note that they are allowed no more than 60 points of outside credit. All students are reminded that the final 30 credits required for the degree must be taken while enrolled in the College for study on this campus or on one of Columbia-sponsored programs abroad. Any exceptions require special permission from the Committee on Academic Standing. In addition, the following conditions apply for study abroad:

1. No credit is granted for courses in business, education, journalism, or other subjects that at Columbia are taught only in professional schools.
2. Transfer credit is not awarded for courses taken on a Pass/Fail basis on outside programs. The minimum grade necessary for transfer of credit is C-.

Students must be cleared to study abroad by the Senior Assistant Dean of Study Abroad (606 Kent) by October 1 for the spring semester and by March 15 for the fall semester and academic year. Students' study-abroad programs must be approved by the Office of Global Programs (606 Kent) and students must register with this office before November 15 for the spring semester and April 15 for the fall semester and academic year.

While abroad, students remain enrolled at Columbia College and tuition is paid to Columbia. Columbia in turn pays the academic costs of the foreign program. Students are financially responsible for room and board as well as any other miscellaneous costs. Students receiving financial aid at Columbia remain eligible for financial aid when they study abroad with Columbia's approval. Students should direct inquiries

regarding financial aid and study abroad to the Office of Financial Aid and Educational Financing, 618 Lerner.

### **Summer Study Abroad**

Summer study abroad provides a meaningful complement to the College curriculum and can help students prepare for longer periods of study on semester- or year-long programs.

Students who participate in Columbia-sponsored programs earn direct credit for their courses. The Columbia-sponsored summer programs include: the Arabic Language Program in Amman, Jordan; the Chinese Language Program in Beijing; the Business Chinese and Internship Program in Shanghai; the Italian Cultural Studies Program in Venice; the Kyoto Consortium for Japanese Studies Program in Advanced and Classical Japanese; the Summer Portuguese Program in Rio de Janeiro; and the programs at Reid Hall (Summer French Studies, Contemporary French Theater and Performance, and Paris Then and Now: Creative Writing in Paris).

Students seeking to study abroad must be cleared by the Senior Assistant Dean of Study Abroad (606 Kent). Transfer credit for summer classes taken abroad on outside programs is awarded only for foreign-language courses under the following conditions:

1. Credits for language study at the elementary and intermediate levels are awarded after the student takes a placement exam to determine his/her progress in the language. Advanced foreign-language instruction courses are accepted for academic credit upon review by the appropriate language department.
2. The only non-language instruction courses eligible for credit are courses which will satisfy the major or concentration. The courses must be taken abroad in a foreign language and it must receive departmental approval to satisfy major or concentration requirements.
3. Limited exceptions can be made for awarding credit for summer courses taught in English. College credit can be granted provided that the course offers a unique experience, such as a field-studies program or archaeological dig, where the study-abroad site functions as a constituent part of the course and the program must be approved by the Office of Global Programs. Departmental approval is required and the course must satisfy major or concentration requirements.

Students interested in non-credited internships and other experiential learning opportunities abroad should inquire with the Center for Career Educations (East Campus Building, Lower Level).

### **The Berlin Consortium for German Studies**

The Berlin Consortium for German Studies (BCGS) provides students with the opportunity to enroll in courses at the Freie Universität Berlin (FU Berlin) for a single semester or a full academic year. The program begins with a six-week intensive language practicum which, in conjunction with a month-long homestay, prepares students for study at the FU Berlin. Upon completion of the practicum, students enroll in one course taught by the BCGS directors on a topic such as cultures, politics, history, literature, theater, or cinema; and for at least two, possibly more, FU Berlin courses for which they meet the prerequisites.

The FU Berlin offers a wide range of courses in the humanities, social sciences, and natural sciences. Students majoring in a variety of disciplines may choose from an array of appropriate courses.

Applicants must have the equivalent of two years of college-level German, although more is recommended.

The member institutions of the Berlin Consortium are Columbia University/Barnard College, Cornell University, the Johns Hopkins University, Princeton University, the University of Chicago, and the University of Pennsylvania, in association with Vassar College.

Columbia College students attending this program have the same access to the financial aid they would have if they were enrolled in classes in New York. Students

who plan to apply should consult with the Office of Global Programs and the Department of Germanic Languages.

For additional program information, students should consult the [www.bcgs.columbia.edu](http://www.bcgs.columbia.edu). For further assistance, students may e-mail [berlin@columbia.edu](mailto:berlin@columbia.edu) or call (212) 854-2559.

### **Kyoto Consortium for Japanese Studies**

The Kyoto Consortium for Japanese Studies (KCJS) offers an intensive, two-semester academic program primarily for undergraduates who wish to do advanced work in Japanese language and Japanese studies. The program is open to qualified students who have completed two or more years of college-level language at the time of enrollment. A limited number of students may be admitted for single semester study in the fall or spring.

The KCJS curriculum provides intensive Japanese language study and the opportunity to choose from a broad spectrum of social sciences and humanities courses on premodern and contemporary Japan. The program takes advantage of the numerous social and cultural resources of Kyoto by incorporation into the curriculum field trips, guest speakers, and research projects based on local field work.

Columbia College students attending this program have the same access to the financial aid they would have if they were enrolled in classes in New York. Students who plan to apply should consult with the Office of Global Programs.

For additional program information, students should consult [www.kcjs.columbia.edu](http://www.kcjs.columbia.edu). For further assistance, students may e-mail [kyoto@columbia.edu](mailto:kyoto@columbia.edu) or call (212) 854-2559.

### **The Oxford/Cambridge Scholars Program**

Columbia students interested in spending their junior year at Oxford or Cambridge should apply for admission to the Oxford/Cambridge Scholars Program during the first term of their sophomore year. Application to the program is made through the Office of Fellowships and Study Abroad. Placement into a specific Oxford or Cambridge college is handled by the Committee of Tutors for Admissions, which supervises the program at each university. Criteria for admission include a very strong academic record at Columbia, as well as demonstrated involvement in extracurricular activities. Application through the Columbia Oxford/Cambridge Program is the only way the College will authorize study at either university. Students seeking further information about this program should contact the Office of Fellowships and Study Abroad.

### **Reid Hall in France**

Established in 1966, Columbia-Penn Program in Paris at Reid Hall offers semester, academic-year, and summer study-abroad options that challenge the students to step outside the boundaries of a traditional French language program and use French as a means to further their understanding of their own area of study. Students with a good command of the French language refine their speaking and writing skills through intensive language training and by taking selected disciplinary courses taught in French specifically for the program at Reid Hall and/or in the French university system at partner institutions (Institut d'Etudes Politiques (Sciences Po), University of Paris IV (Sorbonne), University of Paris I, and/or University of Paris VII (Denis Diderot) and the Ecole Polytechnique). Opportunities for participating in joint honors seminars and directed research are also available.

The minimum prerequisite for the semester or academic-year program is two years of college-level French, although more is recommended.

Columbia College students attending this program have the same access to the financial aid they would have if they were enrolled in classes in New York. Students who plan to apply should consult with the Office of Global Programs.

For additional program information, students should consult [www.ogp.columbia.edu](http://www.ogp.columbia.edu). For further assistance, students may e-mail [reidhall@columbia.edu](mailto:reidhall@columbia.edu) or call (212) 854-2559.



## Semester or Academic Year in Beijing

This program is designed for students who demonstrate a high level of both written and spoken Mandarin Chinese, and who would like to directly enroll in courses at Tsinghua University. The program offers access to a broad range of courses through the Faculty of Humanities and Social Sciences and other schools where participants take classes with Chinese university students. A local faculty member advises students on their academic program and also organizes co-curricular activities. Tsinghua University graduate students are available to tutor students and assist with the transition into the Chinese University system.

Applicants must have the equivalent of three years of college-level Chinese, although more is recommended.

Columbia College students attending this program have the same access to the financial aid they would have if they were enrolled in classes in New York. Students who plan to apply should consult with the Office of Global Programs.

For additional program information, students should consult [www.ogp.columbia.edu](http://www.ogp.columbia.edu). For further assistance, students may e-mail [reidhall@columbia.edu](mailto:reidhall@columbia.edu) or call (212) 854-2559.

## Consortium for Advanced Studies in Barcelona

The Consortium for Advanced Studies in Barcelona (CASB) offers a full-immersion program designed to accommodate students in any major with advanced Spanish (or Catalan) skills. Students are immersed in the local university environment and take their courses at one or more of the Consortium's three distinguished partner universities: the Universitat de Barcelona (UB), the Universitat Autònoma de Barcelona (UAB), and the Universitat Pompeu Fabra (UPF). The combined course offerings of the three universities offer students a vast array of opportunities in the humanities, social sciences, physical and natural sciences, and the arts. All students also attend a language and culture pro-seminar course during the first three weeks of the program which provided basic Catalan instruction, Spanish review, an overview of Spanish history and culture as well as a variety of excursions and activities. Comprehensive student services support the academic and social experience.

The program runs the full academic year, although a semester option is also available.

Applicants must have the equivalent of six semesters of college-level Spanish or five semesters with one semester of Catalan.

Columbia College students attending this program have the same access to the financial aid they would have if they were enrolled in classes in New York. Students who plan to apply should consult with the Office of Global Programs.

For additional program information, students should consult [www.ogp.columbia.edu](http://www.ogp.columbia.edu). For further assistance, students may e-mail [ogp@columbia.edu](mailto:ogp@columbia.edu) or call (212) 854-2559.

## EXCHANGE PROGRAMS

### Columbia-Howard/Spelman Exchange Programs

Columbia College, in partnership with Barnard College, offers students the opportunity to participate in domestic exchange programs with prominent historically black colleges/universities—Howard University in Washington, D.C., and Spelman College in Atlanta, Georgia. The program permits Columbia students to spend a semester or academic year at Howard or Spelman. In exchange, it allows Howard and Spelman students to spend a semester or academic year at Columbia.

Program participants pay tuition to Columbia College. However, students studying at Howard pay room and board expenses directly to Howard University, and students studying at Spelman College pay room and board expenses through Barnard College.

Courses taken at Howard and Spelman are treated as transfer credit. Transfer credit may be earned for approved courses in which students receive a letter grade of C- or higher. However, grades are not calculated into a student's grade point average. Courses taken to satisfy major requirements must be approved by the appropriate academic department.

To be eligible for participation, students should be juniors in good standing in the College, and have a cumulative GPA of 2.8 or higher. Students interested in attending Howard should submit applications by the first week of March for the fall semester and by the first week of November for the spring semester. Students interested in attending Spelman during fall or spring semesters should submit applications by the first week of March. Applications and additional information may be obtained from the Center for Student Advising, 403 Lerner; (212)854-6378, [csa@columbia.edu](mailto:csa@columbia.edu).

### International Exchange Programs

In order to provide the richest and most immersive experience possible to its students, Columbia has established a growing network of exchange agreements with international institutions. With an exchange agreement, Columbia students may study with a partner institution, and in exchange, students from the foreign institution may study at Columbia. Students take regular courses alongside local students, live in campus housing, have an academic adviser, and have access to all university facilities and resources.

As with other types of study abroad programs, all academic work completed abroad counts towards the Columbia degree, and students may take classes towards the major with the department's approval. Columbia College students pay their usual Columbia tuition and are responsible for non-academic costs abroad.

Currently, Columbia has undergraduate exchanges with:

University College London	London, England
York University	York, England
Warwick University	Coventry, England
Bogazici University	Istanbul, Turkey
University Pantheon-Sorbonne Paris I	Paris, France
Institut d'Etudes Politique (Science-Po)	Paris, France
École Polytechnique	Paris, France
University of Hong Kong	Hong Kong, China
Hong Kong University of Science and Technology	Hong Kong, China
Waseda University	Tokyo, Japan
Bocconi University	Milan, Italy
Universität der Künste	Berlin, Germany

Columbia College students attending these programs have the same access to financial aid they would have if they were enrolled in classes in New York. Students who plan to apply should consult with the Office of Global Programs.

For additional program information, students should consult [www.ogp.columbia.edu](http://www.ogp.columbia.edu). For further assistance, students may email [ogp@columbia.edu](mailto:ogp@columbia.edu) or call (212) 854-2559.

### DUAL/JOINT DEGREE PROGRAMS

#### Engineering

##### THE COMBINED PLAN (3-2) PROGRAM:

The Combined Plan (3-2) Program provides students with the opportunity to earn both the B.A. at Columbia College and the B.S. at The Fu Foundation School of Engineering and Applied Science in five years. Students must apply in their junior year to The Fu Foundation School of Engineering and Applied Science. In order to apply, students must have completed or be in the process of completing the pre-engineering courses including:

- Mathematics:* Calculus I-III at a minimum (Calc IV is required for some programs) and Math E1210
- Chemistry:* C1403-C1404 or C3045-C3046 or C2407-C2507  
The lab requirement depends on the program.

<i>Physics:</i>	<i>C1401-C1402; or C1601-1602; or C2801-2802. Some programs require a third semester of physics The lab requirement depends on the program.</i>
<i>Computer Science:</i>	<i>W1003, W1004, or W1005 (depending on program);</i>
<i>Economics:</i>	<i>W1105</i>

Students must also complete the requirements for a Columbia College concentration/major and any additional pre-curricular requirements for the specific engineering major (see specific requirements on the admissions website). A pre-engineering concentration/major is acceptable. In the fourth and fifth years of study, to be completed at the Fu Foundation School of Engineering and Applied Science, requirements for the major at The Fu Foundation School of Engineering and Applied Science must be completed in consultation with the major adviser there. Students with more than 35 transfer credits are not eligible for the program. Housing and financial aid will be continued. Each fall the Admissions Office conducts information forums in which students meet with the Combined Plan Program administrator. For more information, students should contact their advising dean or e-mail: [combinedplan@columbia.edu](mailto:combinedplan@columbia.edu).

#### **THE 4-1 PROGRAM AT COLUMBIA COLLEGE:**

The 4-1 Program provides students in The Fu Foundation School of Engineering and Applied Science the opportunity to obtain a B.A. degree from the College with one additional year of study after completion of four years of study and fulfillment of all requirements for the B.S. degree in engineering. Students who are interested in the 4-1 Program must declare their interest in the spring of their sophomore year and plan their next three years of study with the program adviser. The program is selective, and admission is based on the following factors: granting of the B.S. at SEAS at the end of the fourth year; the fulfillment of the College Core requirements by the end of the fourth year at SEAS; maintaining a minimum GPA of 3.0 in College Core and other courses; the successful completion of any prerequisites for the College major or concentration; and creating a plan to complete a College major or concentration by the end of their 5th year that is approved by the appropriate director of Undergraduate Studies. For more information, students should contact their advising dean.

#### **International Affairs Five-Year Program**

The International Affairs Five-Year Program offers students the opportunity to earn both the B.A. and M.I.A. degrees in five years. Students apply to the program during their junior year through the Admissions Office in the School of International and Public Affairs (SIPA). Once admitted to the joint program, the student completes the senior year at Columbia College, but the bulk of the courses taken are graduate-level ones acceptable to SIPA. Admission to the joint program does not constitute admission to SIPA. To be eligible for the program, the student must have been enrolled in Columbia College for at least four semesters by the end of the junior year, completed a minimum of 93 credits, taken a basic course in economics, achieved competence in a modern foreign language, and completed all College Core requirements and major (or concentration) requirements with the exception of any 6 to 8 credits. These two courses may be taken during the senior year while completing the 24 points required by SIPA. Three points of the SIPA requirements may be taken in the junior year. Summer courses between the junior and senior year may be considered. The student must receive the B.A. with a satisfactory grade point average. Upon formal admission to SIPA after their senior year, students must apply for housing and financial aid. For more information, students should contact their advising dean.

## **The Juilliard School**

Exceptionally talented Columbia College students have access to instrumental, composition and voice instruction at The Juilliard School through two distinct programs.

### **THE EXCHANGE PROGRAM**

Students can be invited to cross-register for weekly instrumental (classical and jazz), composition and vocal instruction with the Juilliard faculty, but not participate in Juilliard ensembles or classes, after completing the formal application and successfully auditioning at Juilliard. Annual juries are held at the end of each academic year, which determine eligibility to continue in the program. Applicants to the exchange may be first-year applicants, or current students within Columbia College. Students may participate in the program for up to four years of study and have the option to apply for the joint program in their junior year. Columbia College students interested in this program must submit a Juilliard Application for Admission, including pre-screening materials, by the December 1 deadline.

### **THE JOINT PROGRAM**

Students already in the exchange program can participate in the joint program that offers students the opportunity to earn a B.A. from Columbia, and an M.M. from Juilliard in five years (voice candidates may need six years of study to complete the program depending on preparation). It is recommended that students interested in the program complement their exchange instruction with music classes and participation in ensembles at Columbia. However, exchange participants do not have any specific course requirements at Columbia in order to qualify for admission to the M.M. at Juilliard. If admitted, students normally spend two subsequent years (three for voice majors) primarily at Juilliard, while finishing any remaining undergraduate requirements at Columbia College. Students receiving Columbia financial aid are subject to Juilliard's financial aid policies during their time at Juilliard, and are not eligible for aid from Columbia.

Students who wish to pursue the joint program should consult with the Center for Student Advising on how to plan accordingly. To apply, Columbia College students must have completed 94 points of course work, including the Core Curriculum requirements and major or concentration requirements for the B.A. within three years, and have participated in the exchange (see above) for at least one year. Exchange participants interested in applying for the program must submit the Juilliard application by the December 1 deadline. The pre-screening (if applicable) is waived. Live auditions are held at The Juilliard School in early March.

### **Law—AILE (Accelerated Interdisciplinary Legal Education) Program**

The AILE Program annually provides up to one or two College students with outstanding records the opportunity to earn the B.A. and the J.D. degree in six years. Selected students matriculate at the Law School after their junior year, having completed the required 93 points including the College Core requirements and a concentration. Interested students must submit an application in the spring of their junior year to the Office of Pre-Professional Advising. The College nominates one or two juniors each year; the final admission determination is made by the Law School Admissions Committee. Transfer students and students with fewer than six semesters of study as Columbia College students on this campus (not abroad) before entering the Law School are not eligible for the program. Prospective participants in this program must take the Law School Admission Test (LSAT) no later than the February administration of the year of intended enrollment. After formal admission to the School of Law, the students are withdrawn from the College. In the student's second and third years at the School of Law, 12 points of course work taken only at the Graduate School of Arts and Sciences must be completed. The courses must be approved beforehand by the student's preprofessional adviser. AILE candidates are required to apply for the B.A. degree the term before they expect to graduate. Students should inform their dean of their plans to graduate in order to be considered for honors and Phi Beta Kappa. AILE students receive College and Law School

degrees at the same time. Once admitted to the Law School, students interested in financial aid and housing should apply through the Law School. For further information, students should contact the Office of Pre-Professional Advising.

### **Public Policy and Administration Five-Year Program**

The Graduate Program in Public Policy and Administration provides students with the opportunity to earn both the B.A. and M.P.A. degrees in five years. The application process is identical to that of the B.A.–M.I.A. program. Candidates need to have taken college math, preferably a year of calculus. An introductory microeconomics course is highly recommended. During the senior year, 24 credits must be taken in the School of International and Public Affairs. It is therefore imperative that all College Core and major (or concentration) requirements be completed by the end of the junior year, with the exception of one or possibly two courses. For further information, see International Affairs Five-Year Program.

### **Columbia-Sciences Po BA/MA Program**

Building on a strong partnership between Columbia and Sciences Po, the Columbia-Sciences Po five-year BA/MA Program allows selected Columbia undergraduate students from Columbia College to follow an intensive joint program in Public and International Affairs. Students from Columbia College apply to the BA/MA program during the second semester of their sophomore year. Selected students spend their junior year at Columbia, carefully choosing their courses to meet their core and major requirements at Columbia. During their senior year, students remain enrolled at Columbia but study as Sciences Po Master's students. During their second year at Science Po, students are no longer enrolled at Columbia but continue working towards their Master's degree at Sciences Po.

Upon completion of this joint program, students obtain both the B.A. awarded by Columbia University and the Master's Degree at Sciences Po. Some students may also choose to opt for the Research Master's Degree at Sciences Po, which is the first step towards the Ph.D.

The joint program is principally aimed at students specializing in public and international affairs who wish to develop their intellectual and professional capabilities from a cross-cultural and transatlantic perspective. It is also open to students interested in more academic and research-oriented careers. This dual training and double credential offers a unique access to Europe, the Francophone world, and to the field of international affairs in general.

For additional program information students should consult [www.ogp.columbia.edu](http://www.ogp.columbia.edu). For further assistance they may email [ogp@columbia.edu](mailto:ogp@columbia.edu) or call (212)854-2559.

## **HEALTH PROFESSIONS**

Medical, dental, and other health professional schools prefer that undergraduates complete a four-year program of study toward the bachelor's degree. All health professional schools require prerequisite coursework. This coursework can be completed during the undergraduate years along with the Core Curriculum and the major or concentration.

### **Major or Concentration**

National statistics, as well as the experiences of Columbia College students, show that there is no major preferred by medical school admissions committees. Students are encouraged to major or concentrate in any field that appeals to them. Students concentrating in a non-science area may wish to take one or two extra science courses to demonstrate their interest and aptitude in the sciences. Students should work closely with their advising deans and their major adviser in planning a program that meets their interests.

## Premedical Requirements

The required premedical science courses are as follows:

1. General chemistry
  - The following lecture sequence and independent lab course:
    - CHEM C1403-C1404*, and *C1500*,
    - For students who place into the accelerated track, *C2407* and *C2507*.
2. Organic Chemistry
  - One of the following:
    - CHEM C3443-C3444*, and *C3543* (the second term of lab, *C3544*, is entirely optional).
    - CHEM C3045-C3046*, and *C2507* in the second term of the first year. This sequence is available only to prospective chemistry or biochemistry majors who have Advanced Placement credit in chemistry, and who achieve a high enough score on the Chemistry Department placement test.
    - Students who score well on the placement test have the option of taking *CHEM C2407* in the first year and *CHEM C3443-C3444*, and *C3543* in the sophomore year.
3. Physics
  - One of the following:
    - PHYS V1201-V1202* and accompanying laboratories (*V1291-V1292*)
    - PHYS C1401* and either *C1402* or *C1602* or *C1601* and *C1602* and one of the following laboratories (*C1493*, *C1494*, *C2699*, *W3081*)
    - PHYS C2801-C2802* is an option for students with exceptionally strong back grounds in both physics and mathematics; Advanced Placement in these subjects or the equivalent; and the instructor's permission. A special placement exam is held during new student orientation. This sequence covers the subject matter of *PHYS C1601*, *C1602* and *C2601* and is preparatory for advanced work in physics and related fields. There is no accompanying laboratory; however, students are encouraged to take the intermediate laboratory *PHYS W3081* in the following year.
4. Biology
  - *BIOL C2005* or *EEEB W2001* and *C2006* or an advanced course chosen in consultation with a departmental adviser.
  - At least 2 points of laboratory work in biology. *BIOL W2501* or *W3002* is recommended for premedical students not majoring in biology. Other biology lecture and lab courses may be substituted for the preferred sequence. Please consult with a preprofessional adviser or advising dean.
5. Mathematics
  - Although it is not required by all medical schools, calculus is required for Columbia chemistry sequences and therefore all premedical students should have at least the equivalent of one semester of Calculus. Some medical schools require a full year of calculus and others require statistics. Ideally, this should be taken during their first year along with chemistry. It is sometimes possible to use AP credit toward this requirement.

Some medical schools do not allow botany courses to be used to fulfill their biology requirements. A few have expanded requirements in biochemistry, statistics, or in other areas. Students should consult the latest edition of *Medical School Admission Requirements* for details. Schools of osteopathy, dentistry, optometry, and podiatry have requirements similar to those of medical school. Reference copies of appropriate bulletins are available in the Center for Student Advising. *General chemistry* should be taken before biology and *Organic chemistry*. The rest of the premedical courses can be taken in any order.

## Barnard Courses

While it is preferred that students complete their premedical requirements with Columbia College courses, students may take premedical requirements at Barnard. However, the Columbia Biology and Chemistry Departments may not accept Barnard courses toward the concentration or major. Students should consult their department adviser before registering for a Barnard course.

## Students with Advanced Placement

Advanced Placement credit in chemistry, biology, or physics can fulfill the premedical requirement for Columbia College. However, there are a number of medical schools that do not accept such credit. Therefore, all students with Advanced Placement credit are strongly advised to take further courses in the field in which they have received such credit.

## Application to Health Profession Programs

Students must apply for admission to health professions schools more than one year in advance of the entry date. Students who are interested in going directly on to health profession schools following graduation should complete all prerequisite courses required for the Medical College Admissions Test (MCAT) by the summer following the junior year. It is entirely acceptable for students to take time between undergraduate and health professions school to apply and thus delay application to these schools for one or more years.

Students planning to medical or dental school should be evaluated by the Premedical Advisory Committee prior to application. A Premedical Advisory Committee application is made available each year in December. Please consult with a preprofessional adviser for more information regarding this process.

## Volunteer Program

Preprofessional Advising maintains an on-line listing of many different clinical volunteer programs across the city. Students may find placements in a variety of different settings including, but not limited to, emergency rooms; intensive care units; research laboratories; outpatient settings; and health clinics. Some clinical experience is strongly advised before application to medical school.

## TEACHING

The Barnard Education Program is a certification program for students interested in elementary or secondary school teaching. First-years and sophomores interested in teaching are strongly encouraged to attend an Education Program Open House or Program Planning Meeting, held in the fall and spring of each year. Interested students should speak to a faculty member as sophomores to ensure they can fit the coursework into their schedule. Applications to the program are due in the fall of the junior year.

For Open House and Program Planning Meeting dates, contact Myles Nugent at [mnugent@barnard.edu](mailto:mnugent@barnard.edu). For additional information regarding the program, please consult the Barnard Education Program website (<http://barnard.edu/education/>).

Faculty members designated to answer questions: Lee Anne Bell, Director, 335 Milbank, [lbell@barnard.edu](mailto:lbell@barnard.edu); Maria Rivera, Assistant Professor, 336 Milbank, [mriverram@barnard.edu](mailto:mriverram@barnard.edu); Lisa Edstrom, Certification Officer, 301 Milbank, [elisa@barnard.edu](mailto:elisa@barnard.edu)

# Academic Honors, Prizes, and Fellowships

## ACADEMIC HONORS

### Dean's List

During each academic term, students who have earned a minimum GPA of 3.6 or better in 12 or more points of letter credit in the preceding term are placed on the Dean's List.

The grade P is considered neutral when the averages are figured, and the dividing factor is reduced by the number of points taken for Pass credit. Students who have received grades of D, F, or UW during the term are not eligible for consideration. Students who receive the grade of INC, **approved in advance** by the Committee on Academic Standing, are eligible for Dean's List only after all INC grades are changed to letter grades.

### College (Latin) Honors

The Bachelor of Arts degree is awarded with honors in three categories (*cum laude*, *magna cum laude*, *summa cum laude*) to no more than 25 percent of the graduating class, with no more than 5 percent *summa cum laude*, and the total of *summa* and *magna cum laude* not exceeding 15 percent. College honors is the highest academic recognition awarded by the College. The Committee on Honors, Awards, and Prizes reviews the academic records of the top 35% of the graduating class. Selection is based not on GPA alone, but on the breadth, depth, and rigor of academic program, high quality of academic achievement, departmental recommendations, and outstanding academic work beyond that which is required for the degree. Students may not apply for honors nor may they solicit faculty for recommendations.

There is no separate consideration of honors for October or February graduates. Each spring the Committee on Honors, Awards, and Prizes considers the October and February graduates along with those who are degree candidates for May. The report of those graduating with honors is in the May Class Day program. The honor is noted on the diploma and transcript. October and February graduates may ask the Registrar to add an honors notation to an already issued diploma.

### Valedictorian and Salutatorian

The Committee on Honors, Awards, and Prizes reviews the academic records of the most exceptional students nominated by the faculty for Valedictorian and Salutatorian. Selections is based not on GPA alone, but on the breadth, depth, rigor of academic program, high quality of academic achievement, departmental recommendations, and outstanding academic work beyond that which is required for the degree.

### Departmental Honors

Departmental Honors may be established and awarded by any Columbia College department or academic program, and is recorded on a student's final transcript. Students should consult with their director of undergraduate studies no later than the beginning of the first term of their senior year if they wish to be considered for Departmental Honors. Students who are awarded Departmental Honors are notified by their department in mid-May. Not all departments and programs offer Departmental Honors. College guidelines for Departmental Honors include the following three criteria:

1. Departmental Honors are awarded to no more than 10 percent, or, in small departments, one member of the graduating majors (including all October, February, and May degrees);
2. a grade point average of at least 3.6 in major courses is expected for a student to be considered for Departmental Honors;
3. an honors thesis or equivalent project of high quality should be required by each department or academic program in order to receive Departmental Honors.



## Phi Beta Kappa

This academic society was founded in 1776 to recognize and celebrate friendship, morality, and learning. The Columbia College Delta chapter was formed in 1869. Each year 10 percent of the senior class is inducted into Phi Beta Kappa by faculty who are members of the society. Two percent is elected in November and the other eight percent is elected in the spring. Selection is based not only on academic achievement, but also on evidence of intellectual promise, character, and achievement outside the classroom. Academic achievement is measured by strength and rigor of program as well as by grades and faculty recommendations. Students may not apply for Phi Beta Kappa nor may they solicit faculty for recommendations.

As with graduation honors, October and February graduates are considered along with students graduating in May. Election to Phi Beta Kappa is noted on a student's transcript.

## PRIZES

A number of prizes are awarded to students for outstanding academic achievements and extracurricular activities.

While prizes are awarded annually (unless otherwise specified), they are done so at the discretion of the respective selection committees. Hence, should a selection committee decide, in a particular year, that there are no suitable candidates the prize will not be awarded.

Unless otherwise noted, these prizes are awarded to Columbia College students only.

### General Prizes

#### ALUMNI ASSOCIATION ACHIEVEMENT AWARD

(1947) A trophy, in the form of a Columbia lion, awarded annually to the member of the senior class who is judged to be most outstanding for qualities of mind, character, and service to the College.

#### ALUMNI PRIZE

(1858) Awarded annually by the Alumni Association to the senior judged by classmates to be the most faithful and deserving.

#### CHARLES H. BJORKWALL PRIZE

(1937) Awarded annually to a member of the senior class for unselfish service to the College community. Established by Ottilie Emma Bjorkwall in memory of her brother, Dr. Charles H. Bjorkwall.

#### EDWARD SUTLIFF BRAINARD MEMORIAL PRIZE

(1920) Awarded annually to the member of the graduating class who is judged by classmates to be most worthy of distinction for qualities of mind and character. Established by Miss Phebe Sutliff in memory of her nephew, Edward Brainard Sutliff, Class of 1921.

#### JAMES CHRISTOPHER CARALEY MEMORIAL PRIZE

(1984) Established in memory of James Christopher Caraley, 1959–1979, Class of 1981, by his family and friends. Awarded annually to that member of the junior class who has demonstrated the greatest commitment to the value of preservation of the natural environment.

#### ROBERT LINCOLN CAREY MEMORIAL PRIZE

(1967) A trophy, in the form of a lion, awarded annually by the Alumni Association to the senior who, through a combination of leadership qualities as exercised in the non-athletic extracurricular program of Columbia College and outstanding achievement in the academic program of the College, best exemplifies the ideals that Robert Lincoln Carey sought to engender in the students of Columbia College.

#### STANLEY I. FISHEL/ZETA BETA TAU PRIZE

Awarded to an undergraduate fraternity member who has demonstrated leadership, academic achievement, and participation in athletics or other campus activities. Established in honor of Stanley I. Fishel, Class of 1934, who was president of ZBT while at Columbia and later national president, and who believed in the important role fraternities can play in the development of undergraduates.

**RICHARD H. FOX MEMORIAL PRIZE**  
(1927) Awarded to the senior who, in the judgment of the King's Crown Advisory Committee, has shown to the College the greatest interest and helpfulness. The student must have participated in some nonathletic activities and must be one who combines intelligence with a kindly interest in his or her fellows. Established by Mr. and Mrs. Leon S. Fox in memory of their son, Richard H. Fox, Class of 1921.

**ROBERT SHELLLOW GERDY PRIZE**  
(1969) Awarded to that member of the graduating class who, throughout the undergraduate years, has made a significant contribution as a member of the staff of one or more College student publications, especially *Jester*, *Columbia Review*, and *Spectator*. Established by Mr. and Mrs. Irving Gerdy in memory of their son, Robert Shellow Gerdy, Class of 1939.

**ROBERT HARRON AWARD**  
(1972) Awarded annually to a member of the junior class for qualities of grace and generosity. Established by his friends in memory of Robert Harron.

**KING'S CROWN AWARD**  
(1916) Gold and silver insignia in the form of King's Crowns, each distinguished by a device symbolic of a particular activity, awarded annually by the King's Crown Advisory Committee in recognition of significant participation in any activity under its jurisdiction. Conferred each spring on the basis of written nominations solicited from the governing board of each eligible organization.

**MILCH PRIZE**  
(1948) Awarded annually to the member of the junior class who, by leadership in extracurricular as well as scholastic activities, has, in the judgment of teachers and classmates, done the most to enhance the reputation of Columbia College. Established by Dr. and Mrs. Henry Milch.

**LEONARD A. PULLMAN MEMORIAL PRIZE**  
(1965) A certificate and the inscription of the student's name on a plaque in Alfred Lerner Hall, awarded annually to a member of the senior class who displays those qualities of outstanding scholarship and significant service to the College exemplified in the life of Leonard Pullman, Class of 1962. The recipient must occupy a position of responsibility in a nonathletic Columbia College activity.

**CHARLES M. ROLKER JR. PRIZE**  
(1909) Awarded annually to the member of the graduating class who is judged by classmates to be most worthy of special distinction because of scholarship, participation in student activities, or in any combination thereof. Established by Mrs. C. M. Rolker in memory of her son, Charles M. Rolker Jr., Class of 1907.

**VAN AM PRIZE**  
(1925) Awarded to the member of the sophomore class who is most distinguished for service, character, and courtesy in relations with faculty members, fellow students, and visitors. A donation is presented to the student activity of the winner's choice. Established by the Class of 1898 on the occasion of its twenty-fifth anniversary.

### **General Academic Prizes**

**ALBERT ASHER GREEN MEMORIAL PRIZE**  
(1913) Awarded to the senior who has been a student in good standing in the College for at least three years and who has made the best record of scholarship. Established by Mr. and Mrs. Asher Green in memory of their son, Albert Asher Green, Class of 1914.

**DAVID B. TRUMAN ALUMNI AWARD**  
(1970) A lion trophy donated annually by the Alumni Association to the Columbia College student who has made the most distinguished contribution to the academic affairs of the College. Established in honor of David B. Truman, former Dean of the College.

### **Prizes in the Core Curriculum**

**JOSHUA A. FEIGENBAUM PRIZE IN LITERATURE HUMANITIES**  
(2004) Established by Joshua Feigenbaum and awarded to a student who is judged by the faculty to have exhibited excellence in Literature Humanities.

**WALLACE A. GRAY PRIZE IN LITERATURE HUMANITIES**  
(2004) Established in memory of the late Professor Wallace Gray and awarded annually to the Columbia College undergraduate who is judged by the faculty to have written the best essay in Literature Humanities.

**DEAN HAWKES MEMORIAL PRIZE**  
(1943) Awarded annually to the member of the junior class who is judged to be the most deserving on the basis of work in the humanities. Established by a committee of the Class of 1943 in memory of Dean Herbert E. Hawkes.

**JONATHAN THRONE KOPIT PRIZE IN LOGIC AND RHETORIC**  
(1997) Established by Mrs. Ina Cohen in memory of her husband, Jonathan Throne Kopit, who was a member of the Class of 1968.

**JAMES P. SHENTON PRIZE IN CONTEMPORARY CIVILIZATION**  
(2004) Awarded annually to the Columbia College undergraduate who is judged by the faculty to have written the best essay in Contemporary Civilization. Established by the Committee on the Core and the Office of the Dean of the College in memory of Professor James P. Shenton, Class of 1949 and GSAS 1955.

### Prizes in the Humanities

**SENIOR THESIS PRIZE IN ART HISTORY AND ARCHAEOLOGY**  
(2002) Established as a gift from Philip E. Aarons, CC'73 and Law '76, in recognition of an outstanding senior thesis by a major in the Department of Art History and Archaeology.

**CHARLES PATERNO BARRATT-BROWN MEMORIAL PRIZE**  
(2000) Awarded to a Columbia College senior who is judged by the English Department to have excelled in critical writing in any scholarly field. Established by his parents and his sister in honor of Charles, who graduated from the College in 1983.

**DINO BIGONGIARI PRIZE**  
(1954) Established by the former students and friends of Professor Dino Bigongiari, awarded annually to the senior who has written an outstanding essay on Italian civilization or whose work in the regular Italian courses is judged most worthy of distinction.

**CARL B. BOYER MEMORIAL PRIZE**  
(1978) Awarded annually to the Columbia undergraduate who writes the best essay on any topic in the history of science or mathematics as judged by a faculty committee. Established by Mrs. Carl B. Boyer in memory of her husband.

**BUNNER PRIZE**  
(1896) Awarded to the candidate for a degree in Columbia University who has submitted the best essay on a topic dealing with American literature. The topic to be selected in connection with course or seminar work in American literature and approved by the chairman of the Bunner Prize Committee. Established by friends of the late Henry Cuyler Bunner.

**DOUGLAS GARDNER CAVERLY PRIZE**  
(1994) Established in memory of Douglas Gardner Caverly, Class of 1968, by his family and friends, and awarded for outstanding performance by a graduating major in Classics.

**DEUTSCHER VEREIN PRIZE IN GERMAN**  
(1917) Awarded annually to the junior or senior who submits the winning essay on a prescribed topic in German literature.

**EARLE PRIZE IN CLASSICS**  
(1907) Awarded for excellence in sight translation of passages of Greek and Latin. Only candidates for the degree of Bachelor of Arts may compete. Established in memory of Mortimer Lamson Earle, Class of 1886, lecturer and professor in the Department of Classics.

**JOHN VINCENT HICKEY PRIZE**  
(2004) Awarded annually to the Columbia College undergraduate who is judged by the Department of English and Comparative Literature to have submitted the best essay on Irish, English, or American poetry. Established by Dr. Helene J.F. de Aguilar in honor of her brother.

**ADAM LEROY JONES PRIZE IN LOGIC**  
(1934) Awarded to a student in the College for the best essay on any topic in the philosophy of science or in the foundation of logic. It may be either a topic connected with seminar work in the Department of Philosophy or one approved by the Jones Prize Committee. Established by Mrs. Adam Leroy Jones in memory of her husband, who was Associate Professor of Philosophy and Director of University Admissions, 1909–1934.

**HELEN AND HOWARD R. MARRARO PRIZE**  
(1972) Awarded to an undergraduate of high academic distinction and promise in an area of study concerned with Italian culture, including art, music, comparative literature, history, economics, government, or in any other academic discipline. Established in honor of Professor Howard R. Marraro.

**PETER M. RICCIO PRIZE**  
(1992) Awarded to a student who is not a native speaker of Italian but who has an excellent record in the study of some aspect of Italian culture. Established in memory of Peter M. Riccio, student and Professor in the College and the University and Director of the Casa Italiana from 1957 to 1966.

**BENJAMIN F. ROMAINE PRIZE FUND**  
(1922) Gift of Benjamin F. Romaine to provide an annual prize for proficiency in Greek language and literature.

**SUSAN HUNTINGTON VERNON PRIZE**  
(1941) Established by a member of the noted family of Hispanophiles to encourage young women in humanistic pursuits at the college level. Currently offered by the Department of Latin American and Iberian Cultures and the Hispanic Institute of Columbia University to the Columbia College senior who has most demonstrated excellence in the study of Spanish language and Spanish and Latin American literatures and cultures.

### **Prizes in the Social Sciences**

**CHARLES A. BEARD PRIZE**  
(1963) Awarded to the student who writes the best paper in political science during the academic year. Established by the Honorable Albert Levitt.

**CHARLES A. BEARD PRIZE**  
(2003) Established by the History Department for a senior thesis of superior distinction in any historical field and period.

**CHANLER HISTORICAL PRIZE**  
(1877) Awarded to the senior who submits the best essay on a topic dealing with the history of civil government in America. The topic to be selected in conjunction with seminar work in one of the social science departments and approved by the chairperson of the Chanler Prize Committee. Established by the bequest of J. Winthrop Chanler of the Class of 1847.

**TARAKNATH DAS FOUNDATION AWARD**  
(1957) Awarded annually to a student in Columbia College, the School of General Studies, or Barnard College for excellence in Asian studies, particularly in the history and culture of India.

**ALBERT MARION ELSBERG PRIZE**  
(1912) Awarded to a student with sophomore, junior, or senior standing who has demonstrated excellence in modern history. Established by Mrs. Albert Elsberg in memory of her son, Albert Marion Elsberg.

**LILY PRIZE IN HISTORY**  
Awarded by the History Department for academic achievement in the study of history other than that of the United States. Established by Professor James P. Shenton, Columbia College Class of 1949 and GSAS Class of 1955, in honor of his mother.

**GARRETT MATTINGLY PRIZE**  
(2003) Established by the History Department for a senior thesis of superior distinction in any historical field and period.

**SANFORD S. PARKER PRIZE**  
(1980) Awarded to a Columbia College senior going on to graduate study in economics who shows promise of doing original work and has already demonstrated boldness of thought and a commitment to excellence, whose interests are wide, heart kind, and spirit generous. Funded by the family and friends in memory of Sanford S. Parker, Class of 1937.

**ROMINE PRIZE**  
(1996) Awarded to two undergraduate students who have done exemplary work in the field of economics. Established by John Romine in honor of his brother, David Estabrook Romine.

**CAROLINE PHELPS STOKES PRIZE**  
(1910) Awarded to a student who has been a degree candidate for at least one academic year at Columbia College or Barnard College, and who has written the best essay on any topic concerning the rights of man. The topic to be selected in connection with course or seminar work and approved by the Stokes Prize Committee. Established by the bequest of Caroline Phelps Stokes.

**ALAN J. WILLEN MEMORIAL PRIZE**  
(1968) Awarded to the Columbia College student who writes the best seminar paper on a contemporary American political problem. The selection is made jointly by representatives of the Departments of History and Political Science. Established by classmates and friends of Alan J. Willen, Class of 1964, in his memory.

### **Prizes in the Natural and Physical Sciences**

**RICHARD BERSOHN PRIZE**  
(2009) Established by Professor Louis Brus, who was a student of Professor Bersohn, this prize may be awarded to the Columbia College, General Studies, or SEAS student majoring in the chemical sciences who is deemed by the faculty to have demonstrated outstanding achievement as a scholar and as a researcher.

**COMPUTER SCIENCE DEPARTMENT AWARD**  
Awarded to a degree candidate for scholastic achievements as a computer science major and as acknowledgment of his or her contributions to the Department of Computer Science and to the University as a whole.

**THOMAS J. KATZ PRIZE**

(2009) Established by friends and colleagues of Professor Katz, this prize may be awarded to the Columbia College, General Studies, or SEAS student majoring in the chemical sciences who is deemed by the faculty to have demonstrated outstanding achievement as a scholar and as a researcher.

**RUSSELL C. MILLS AWARD**

(1992) Established in memory of Russell C. Mills, a Ph.D. candidate in Computer Science who exemplified academic excellence and intellectual curiosity, and presented annually to the senior in Computer Science whose course work and projects stand out as the best in the class.

**ALFRED MORITZ MICHAELIS PRIZE**

(1926) Awarded to the member of the graduating class who has completed with the most proficiency the sequence of courses in physics that corresponds most nearly to the sequence given by the late Professor George V. Wendell. Established by Mrs. Jeanette Michaelis in memory of her son, Alfred Moritz Michaelis, Class of 1920.

**PROFESSOR VAN AMRINGE MATHEMATICAL PRIZE**

(1910) Awarded to three College students (a first-year, a sophomore, and a junior) who are deemed most proficient in the mathematical subjects designated during the year of the award. Established by George G. DeWitt, Class of 1867.

**JOHN DASH VAN BUREN JR. PRIZE IN MATHEMATICS**

(1906) Awarded to the degree candidate who writes the best examination on subjects prescribed by the Department of Mathematics. Established by Mrs. Louise T. Hoyt in memory of her nephew, John Dash Van Buren Jr., Class of 1905.

**Prizes in the Creative and Performing Arts****ACADEMY OF AMERICAN POETS POETRY PRIZE**

(1956) Given by the Academy to the poet who has written the best poem or group of poems submitted during the academic year. Manuscripts should normally be submitted to the Department of English and Comparative Literature before April 1.

**SEYMOUR BRICK MEMORIAL PRIZE**

(1969) Awarded to the Columbia College student who submits the best one-act or full-length play as judged by the Department of English and Comparative Literature. Established by Mrs. Seymour Brick and her son, Richard, in honor of their husband and father, who was a member of the Class of 1934.

**KAREN OSNEY BROWNSTEIN WRITING PRIZE**

(1991) Awarded to a graduating senior in Columbia College who has written a single piece or a body of work so distinguished in its originality of concept and excellence of execution that it fairly demands the award, support, and recognition the prize intends. Established by Neill H. Brownstein, Class of 1966, in memory of Karen Osney Brownstein.

**GEORGE WILLIAM CURTIS PRIZE**

(1902) Awarded to students in the College for excellence in the public delivery of English orations. Established by the late Samuel Putnam Avery, Class of 1896, an associate of George William Curtis.

**ARTHUR E. FORD POETRY PRIZE**

(1980) Awarded annually to the senior who submits the best collection of poems. Established by Mrs. Doris Ford in memory of Arthur E. Ford.

**PHILOLEXIAN CENTENNIAL WASHINGTON PRIZE**

(1902) Awarded once every four years to the student in the college who shall be deemed most worthy, upon delivery of an original address on a subject concerning public affairs. Gift of J. Ackerman Coles, Class of 1864.

**PHILOLEXIAN PRIZE FUND**

(1904) A gift of the Philolexian Society, the income from which shall be used for prizes in Columbia College for debating, essays, short stories, and poetry.

**AUSTIN E. QUIGLEY PRIZE**

(2010) The Austin E. Quigley prize for outstanding artistic and intellectual achievement may be awarded to a Columbia College senior majoring in Drama and Theatre Arts. Named in honor of Columbia College's dean from 1995 - 2009, the prize is funded by Nobel Laureate Richard Axel, Columbia College Class of 1967 and University Professor of Biochemistry and Molecular Biophysics

**THE LOUIS SUDLER PRIZE IN THE ARTS**

(1983) Awarded annually to a senior who, in the opinion of the Faculty, has demonstrated excellence of the highest standards of proficiency in performance or execution or in the field of composition in one of the following general areas of performing and creative arts: music, theatre, painting, sculpture, design, architecture, or film.

**VAN RENSSELAER PRIZE**

(1926) Given to the candidate for a degree in Columbia University who is the author of the best example of English lyric verse. Material must be submitted to the Department of English and Comparative Literature by April 1. Gift of Maximilian Foster.

**GEORGE EDWARD WOODBERRY PRIZE**

(1935) Awarded every second year to an undergraduate student in Columbia University for the best original poem. Established by the Woodberry Society of New York.

**FELLOWSHIPS**

For further information, students should inquire at the Office of Global Programs, 606 Kent Hall.

**Fellowships for Graduate Study****HARRY J. CARMAN FELLOWSHIP**

(1949) Awarded to no more than two graduating seniors for advanced study. Established from the gifts of former friends and students of Dean Carman.

**JARVIS AND CONSTANCE DOCTOROW FELLOWSHIP**

(2005) Awarded to a graduating senior, this fellowship provides a stipend for one year of graduate study at St. Edmund Hall, Oxford. Established by the Jarvis and Constance Doctorow Foundation.

**HENRY EVANS TRAVELLING FELLOWSHIP**

(1928) Gift of Mrs. Henry Evans in memory of her husband, Henry Evans, Class of 1881. Awarded to a graduating senior, with preference given to the student planning to undertake a research project of a creative nature that requires travel rather than formal graduate study.

**HOLTHUSEN-SCHINDLER ENDOWMENT FUND**

(2000) Established as a behest from the estate of Lenore S. Holthusen, the widow of Hen Holthusen, Law 1917, to provide financial support in the form of scholarships to worthy graduates of Columbia College who continue their education at the Law School of Columbia University.

**EURETTA J. KELLETT FELLOWSHIPS**

(1932) Awarded annually and for two consecutive years to two graduating seniors of the College who have shown exceptional proficiency in the study of the liberal arts, for study at Oxford or Cambridge University. Bequest of Eurette Jane Schlegel.

**Special Undergraduate Fellowships****SOLOMON AND SEYMOUR FISHER CIVIL LIBERTIES FELLOWSHIP**

(1989) Awarded annually to a Columbia College student to work during the summer in the Legal Department of the American Civil Liberties Union National Office in New York City. Gift of Solomon Fisher, Class of 1936, and Seymour Fisher, Class of 1945.

**KLUGE FELLOWS SUMMER RESEARCH GRANT**

(1988) Grants are awarded competitively to students from underrepresented groups to pursue an independent research project during the summer under the sponsorship of a faculty member. The application process includes a series of seminars and workshops. Endowment gift of John Kluge, Class of 1937.

**RICHARD LEWIS KOHN TRAVELLING FELLOWSHIP**

(1959) Awarded annually to a well-qualified student to supplement work in the College with study during the junior year in Great Britain, preferably at the University of London. First consideration is given to students majoring or concentrating in political science or economics. Established from gifts of various donors.

**MELLON MAYS UNDERGRADUATE FELLOWSHIP**

(1996) Awarded in the spring semester of the sophomore year to minority students, and other undergraduates with a demonstrated commitment to racial diversity, who wish to pursue a PhD and whose intellectual and social commitments embody those of the late Dr. Benjamin Mays. The Fellowship provides a two-year academic enhancement program funded by the Andrew W. Mellon foundation.

**RICHARD AND BROOKE KAMIN  
RAPAPORT SUMMER MUSIC  
PERFORMANCE FELLOWSHIP**

(1993) Gift of Richard A. Rapaport, Class of 1969, and Brooke Kamin Rapaport, to create a summer opportunity for Columbia College students who are particularly gifted in musical performance, composition, or conducting.

**EDWIN ROBBINS ACADEMIC  
RESEARCH & PUBLIC SERVICE  
FELLOWSHIP**

(1991) A stipend awarded each summer to four Columbia College students majoring in political science or history who intend to conduct research into important political or policy making matters, or who will be working as interns, without compensation, in a governmental office, agency, or other public service organization. Established by Edwin Robbins, Class of 1953.

**ARTHUR ROSE TEACHING  
ASSISTANTSHIP**

(1958) Awarded to a senior in the College who is to assist the work of a member of faculty in one of the departments that contribute to the courses in Contemporary Civilization and the Humanities. Gift of Mr. and Mrs. Bennett Rose in memory of their son, Arthur Rose.

**RICHMOND B. WILLIAMS TRAVELLING  
FELLOWSHIP**

(1988) Awarded to a Columbia College junior English major for a summer research project requiring foreign travel. The recipient of the fellowship must register for an independent research course in the fall to write up the results of the summer's work. Bequest of Richmond B. Williams of the Class of 1925.

**Special Endowments**

**CLASS OF 1954 URBAN NEW YORK  
PROGRAM ENDOWMENT**

(1981) The Urban New York Program is sponsored by Barnard College, Columbia College, and The Fu Foundation School of Engineering and Applied Science and has been endowed by the Class of 1954. The program enables student and faculty to jointly experience cultural events in New York City twice during the academic year.

**ARNOLD I. KISCH, M.D., AND  
VICTORIA L. J. DAUBERT, PH.D.,  
ENDOWMENT**

(1993) Created for students to experience opera in New York City within the Urban New York Program.

# College and University Policies

Since policies and procedures are subject to change, please check the Columbia University Web site ([www.columbia.edu](http://www.columbia.edu)) for the most current information.

## RESERVATION OF UNIVERSITY RIGHTS

This bulletin is intended for the guidance of persons applying for or considering application for admission to Columbia University and for the guidance of Columbia students and faculty. The bulletin sets forth in general the manner in which the University intends to proceed with respect to the matters set forth herein, but the University reserves the right to depart without notice from the terms of this bulletin. The bulletin is not intended to be and should not be regarded as a contract between the University and any student or other person.

Valuable information to help students, faculty, and staff understand some of the policies and regulations of the University can now be found in *Essential Policies for the Columbia Community* on the following Web site: <http://facets.columbia.edu>, including information on the following.

- Policy on Access to Student Records under the Federal Family Educational Rights and Privacy Act (FERPA) of 1974, as Amended
- Social Security Number Reporting
- University Regulations/Rules of University Conduct
- Policies on Alcohol and Drugs
- Equal Opportunity and Nondiscrimination Policies
- Sexual Assault Policy and Disciplinary Procedure
- Policy on Partisan Political Activity
- Crime Definitions in Accordance with the Federal Bureau of Investigation's Uniform Crime Reporting Program
- Morningside Campus: Required Medical Leave for Students with Eating Disorders
- Voluntary Leave of Absence Policy
- Involuntary Leave of Absence Policy
- Military Leave of Absence Policy
- Essential Resources:
  - Campus Safety and Security
  - Disability Services
  - Ombuds Office
  - Transcripts and Certifications
- Additional Policy Sources for the Columbia Community
- Student E-mail Communication Policy
- CUIT Computer and Network Use Policy
- Consumer Information

## IMMUNIZATION REQUIREMENTS

### Meningococcal Meningitis Decision

New York State public health law requires that students taking 6 or more points receive information from their institutions about meningococcal meningitis and the vaccine that protects against most strains of the disease that can occur on university campuses. Columbia students must make an informed decision about being vaccinated and certify their decision on-line. Full instructions are given on-line, and the process takes two to three minutes to complete. Students must formally indicate their decision about being vaccinated before they are permitted to register for classes.

### Measles, Mumps, and Rubella (MMR)

New York State public health law requires that students taking 6 or more points provide documentation of immunity to measles, mumps, and rubella (MMR) before their first term of study. There are several ways to document immunity. In all cases, the Columbia University MMR form must be completed and submitted to the Health



Services at Columbia (HSC) Immunization Office in Wien Hall, first floor, Suite 108, no later than the specified deadline, which is listed on the Health Services website, [www.health.columbia.edu](http://www.health.columbia.edu). The blood test or MMR immunizations can be obtained at Primary Care Medical Services, a part of HSC.

For any questions about these requirements, please e-mail [hs-enrollment@columbia.edu](mailto:hs-enrollment@columbia.edu) or visit [www.health.columbia.edu](http://www.health.columbia.edu).

### **Immunizations Recommendations**

Health Services at Columbia recommends that all students be properly immunized against or have immunity to the following: hepatitis B (three-dose series), varicella (chicken pox, two-dose series), tetanus, and all routine childhood diseases. These immunizations are available at Primary Care Medical Services. Students enrolled in the Health Service Program are not charged for the following vaccines when administered at Primary Care Medical Services: MMR, Hepatitis A, Hepatitis B, Hepatitis Combination A and B, Tetanus-Diphtheria, and Tetanus-Diphtheria-Pertussis. For all other vaccinations, students are charged for the cost of the vaccine. Vaccinations are available to students not enrolled in the Health Service Program for a minimal fee. For more information, please check on-line at [www.health.columbia.edu](http://www.health.columbia.edu)

### **DEAN'S DISCIPLINE PROCESS**

The Office of Judicial Affairs and Community Standards (located within the Division of Student Affairs) is responsible for all disciplinary affairs concerning undergraduate students that are not reserved to some other body.

The purpose of the Dean's Discipline process is educative and used to determine students' responsibility for alleged violations of College or University policies. Since the Dean's Discipline process is neither adversarial, nor legalistic, the technical rules of evidence applicable to civil and criminal court cases do not apply. As a result, students subject to Dean's Discipline should approach it as an opportunity to critically evaluate their responsibilities as members of the Columbia community.

Upon receipt of a complaint, the Office of Judicial Affairs and Community Standards first determines whether Dean's Discipline is appropriate or if the complaint should be referred elsewhere. Many policy violations that occur in the residence halls are handled by the associate directors of the Office of Residential Programs; however more serious offenses are referred directly to the Office of Judicial Affairs and Community Standards. Similarly, most violations of rules concerning fraternities or sororities as organizations are handled by the assistant director of Greek life and leadership or the Greek Judicial Board; while some incidents are referred directly to the Office of Judicial Affairs and Community Standards. In matters involving rallies, picketing, and other mass demonstrations, the Rules of University Conduct outlines procedures.

If it is determined that a complaint is subject to Dean's Discipline, the student is provided written notice and given instructions on the steps in the process. There follows a disciplinary hearing at which information supporting the allegation that the student has violated College or University policies is presented. The student is then provided an opportunity to respond and to present additional relevant information.

Based on a preponderance of evidence, the hearing officers will make a determination of responsibility for the alleged violation if the information provided in the hearing demonstrates that it is more likely than not that a violation of Columbia policy occurred. If a student is found responsible, the seriousness of the violation and student's previous disciplinary record, if any, will determine the sanction issued.

The parents or guardians of students found responsible may also be notified. In addition, the faculty Committee on Honors, Awards, and Prizes and the Columbia College chapter of Phi Beta Kappa may take into consideration students' responsibility for violating College or University policies in the decisions for awarding College Honors, Departmental Honors, and selecting students for induction into Phi Beta Kappa. Students may also be precluded from participating in other campus events and opportunities depending on the case outcome.

Students will be notified of the outcome of the hearing in writing and have the right to request an appeal of the decision and the resulting sanctions. There are three

grounds upon which an appeal may be made: (1) the student has new information, unavailable at the time of the hearing; (2) the student has procedural concerns that may change or affect the outcome of the decision; or (3) the student perceives the sanction to be too severe. The request for review must be made in writing and must be submitted within ten calendar days after the student receives notice of the hearing outcome. Students are given the opportunity to make one request for review of the decision against them. No higher level of appeal is available after this first request has been processed.

For more information on the Dean's Discipline hearing process or to contact a staff member, please visit the Office of Judicial Affairs and Community Standards website: <http://www.studentaffairs.columbia.edu/judicialaffairs/index.php>

## **SPECIAL CIRCUMSTANCES**

### **Interim Actions**

In a situation requiring immediate action and during the investigative process, student affairs staff may place restrictions on a student prior to the conclusion of the hearing. Restrictions that may be placed on students include, but are not limited to, restricting access to the residence halls or other buildings on campus or suspending a student from participation in the campus community. Student affairs staff will only take these interim actions if it is determined that the student's behavior may make their presence on campus a danger to the normal operation of the institution, the safety of themselves or others, or to the property of the University or others.

### **Outside Proceedings**

If an investigation is occurring outside of the university community (as in the case with criminal investigations) the University may postpone the Dean's Discipline process until the conclusion of outside proceedings. However, interim measures may be taken immediately as indicated above. It should be noted that the results of the outside investigation are rarely considered within the context of the institutional investigation unless that investigation reveals behavior that is particularly egregious and damaging to the well-being of the University community. It is the responsibility of the student to notify the Office of Judicial Affairs and Community Standards when the outside proceedings have been completed.

## **CONFIDENTIALITY**

In general, under University policy and federal law, a student's record, including information about Dean's Discipline proceedings, is confidential; however, there are certain exceptions to this rule. One exception to this principle is that the outcome of Dean's Disciplinary proceedings alleging a crime of violence may be disclosed both to the accuser and the accused. To read more about the exceptions that apply to the disclosure of student records information, please visit <http://facets.columbia.edu/policy-access-students-records-ferpa>.

## **WITHDRAWALS, LEAVES, AND READMISSION**

### **Academic Probation**

At the end of each term the Committee on Academic Standing reviews the records of all students enrolled in the College to determine student standing, including academic probation, suspension, and required withdrawals.

Students may be placed on academic probation for the following reasons: failure to complete with passing grades 12 points in a term; a term or overall grade point average below 2.0; or failure to make satisfactory progress toward the degree. The advising deans in the Center for Student Advising offer the support necessary to help students on academic probation return to good standing.

Parents are notified when students are placed on academic probation or suspension or are academically dismissed from the College.

Students who are on academic probation are not eligible for study abroad.

## **Academic Suspension/Dismissal**

Students with extremely poor records in a term, or who fail to improve after being on academic probation, will be required to withdraw from the College for at least a year. Conditions for readmission are specified at the time of suspension. If a student is readmitted after having been suspended and again fails to achieve satisfactory grades or to make normal progress toward the degree, he or she may be dismissed from the College. International Students in F-1 or J-1 status are not allowed to remain in the United States while suspended or dismissed from the University. Any international student who is dismissed or suspended should immediately contact the International Students and Scholars Office to discuss any options available.

## **Medical Leave of Absence**

A medical leave is granted to a student whose health prevents them from successfully pursuing full-time study. A student should consult with their advising dean in the Center for Student Advising to initiate a medical leave. Documentation from a healthcare provider must be provided before a medical leave can be granted. Any health documentation provided may be reviewed by a Columbia health professional in Health Services and a conversation between the treating health care provider and the designated University health professional may be required. Students may also be required to engage in an exit interview with a University health professional during the process. Upon return from a medical leave, the student must submit proof of recovery, as well as meet all other conditions as outlined in their leave letter provided by the Center for Student Advising. Most medical leaves are for a minimum of one year; they are rarely granted for more than two years. Failure to return within two years results in permanent withdrawal from the College. International students in F-1 or J-1 status should contact the International Students and Scholars Office (ISSO) before taking a leave of absence to obtain the necessary information needed to stay in valid student non-immigrant status and to verify that SEVIS, the Department of Homeland Security database, has been notified of the approved leave. Once the student plans to return to Columbia and has obtained the necessary approval from the school, the student must contact the ISSO to request a new visa certificate (form I-20 or form DS-2019) that reflects the new completion of studies date. To obtain the complete policy, students should consult their advising dean in the Center for Student Advising.

## **Readmission**

Students seeking readmission to Columbia College must submit evidence that they have achieved the purposes for which they left. Consequently, specific readmission procedures are determined by the reasons for the withdrawal. Policy statements outlining the readmission procedures for voluntary or medical leaves of absences are available in the Center for Student Advising. Student should consult their advising dean for further information.

Students applying for readmission should complete all parts of the appropriate readmission procedures by June 1 for the fall term or October 1 for the spring term. Once an international student in F-1 or J-1 status is readmitted, the student should contact the International Students and Scholars Office to obtain a new visa certificate (form I-20 or form DS-2019).

## **THE COLUMBIA COLLEGE COMMITTEE ON ACADEMIC STANDING**

The Columbia College Committee on Academic Standing implements academic policies and regulations for Columbia College students as set forth by the faculty Committee on Instruction, the University Senate, or the faculty as a whole. The Committee on Academic Standing is expected to uphold the policies and regulations of the Committee on Instruction.

The Committee on Academic Standing is composed of advising deans and the associate dean of advising.

## ACADEMIC INTEGRITY

Academic integrity defines an intellectual community and its educational mission. As members of such a community Columbia College students are expected to honor intellectual work and respect its origins. A Columbia College education has two complementary elements: mastery over intellectual material within a discipline and overall development of moral character and personal ethics. Engaging in forms of academic dishonesty violates Columbia community standards and severely inhibits a student's opportunity to mature academically, professionally, and socially. Consequently, academic dishonesty is one of the most serious offenses a student can commit at Columbia University.

Academic dishonesty may be intentional or unintentional and most commonly includes but is not limited to:

1. Plagiarism (the use of words, phrases, or ideas belonging to another, without properly citing or acknowledging the source)
2. Self-plagiarism (the submission of one piece of work in more than one course without explicit permission of the instructors involved)
3. Cheating on examinations, tests, or homework assignments
4. Violating the limits of acceptable collaboration in coursework established by a faculty member or department
5. Receiving unauthorized assistance on an assignment
6. Copying computer programs
7. Obtaining advance knowledge of exams or other assignments without permission
8. Unauthorized distribution of assignments and exams
9. Forgery
10. Facilitating academic dishonesty by enabling another to engage in such behavior
11. Lying to an instructor or University officer
12. Falsification, forgery, or misrepresentation of information in coursework or lab work; on any application, petition, or documents submitted to the College or a University official
13. Fabrication of credentials in materials submitted to the University for administrative or academic review

A student alleged to have engaged in academic dishonesty is subject to the Dean's Discipline Process outlined above.

Students found responsible for academic dishonesty may expect a notation on the student's permanent academic record specifying and indicating that sanction is a result of academic misconduct. In addition, they may expect reports of such offenses on future recommendations for law, medical, other professional schools or graduate school. The parents or guardians of students found responsible may also be notified. In addition, the faculty Committee on Honors, Awards, and Prizes and the Columbia College chapter of Phi Beta Kappa may take into consideration students' responsibility for violating College policies in their respective decisions for awarding College Honors and selecting students for induction into Phi Beta Kappa.

Columbia's disciplinary approach to academic dishonesty, and the disciplinary process as a whole, is educative, and is informed by expectations that students must take full responsibility for their actions and that students will make informed choices inside and outside the classroom. Through the Center for Student Advising, students can access a range of resources that aid them in making sound decisions regarding academics, extracurricular activities, and personal issues.

## POLICY ON ACADEMIC CONCERNS, COMPLAINTS, AND GRIEVANCES

Columbia University is committed to fostering intellectual inquiry in a climate of academic freedom and integrity. Its members, students and faculty alike, are expected to uphold these principles and exhibit tolerance and respect for others.

When a student believes that a faculty member has failed to meet his or her obligations in an instructional setting, the student has two principal sources of immediate assistance: the University's Ombuds Office and the professional staff of the School in which the student is enrolled.

The Ombuds Office is available to help students find solutions to a wide range of problems arising in the context of their association with the university, including those involving faculty misconduct in an instructional setting. Students may wish to consult with the Ombuds Office before taking their concerns to the School, or they may wish to consult with the Ombuds Office at any time in the course of their discussions with School officials or, eventually, with members of the Vice President's Grievance Committee.

Like the Ombuds Office, each of the Schools has a professional staff ready to help students with concerns and complaints of many kinds, including those involving faculty misconduct in an instructional setting. The staff works with students and faculty to resolve such issues, but should resolution not be possible, the student may avail herself or himself of the School's grievance procedures.

The following procedures are part of a process to ensure that student concerns about experiences in the classroom or with faculty are addressed in an informed and appropriate manner.

Due to the size and diverse nature of our scholarly community, each school maintains its own processes for addressing a variety of student life issues, including students' concerns about experiences in the classroom or with faculty at their school. Experience has shown that most student concerns are best resolved in a collaborative way at the school level, starting with the advising dean or dean of students, as explained below for your particular school.

The grievance procedures available through the office of the Vice President for Arts and Sciences are intended to complement, not substitute for, the procedures available in each of the Schools, and they treat a considerably more limited range of issues. They are designed to address only those cases involving professional misconduct by a faculty member of Arts and Sciences in an instructional setting in which there were significant irregularities or errors in applying School procedures. Information on this process can be found on the Faculty of the Arts and Sciences website.

If the instructor at issue is not a member of the Arts and Sciences faculty, the student should consult the instructor's particular school for its procedures. We welcome students' thoughts on ways to clarify or enhance these procedures. If you are a Columbia College student, please e-mail us at [cc-academicaffairs@columbia.edu](mailto:cc-academicaffairs@columbia.edu).

### **Columbia College Process for Expressing Academic Concerns, Complaints, and Grievances**

Columbia College students are members of a University community committed to fostering intellectual inquiry within a climate of academic freedom and integrity. Students and faculty alike are expected to promote these goals in the context of inclusiveness, mutual respect, and tolerance for others, as ideas are explored, facts gathered, opinions weighed, and conclusions drawn. We work together with the understanding that we are, first and foremost, an educational community with teaching and learning at the heart of our enterprise and many educational opportunities beyond the walls of the classroom. Central to all of our procedures is our educational mission, and it is this educational mission which also informs our process for dealing with academic concerns, complaints, and grievances. From time to time a student may have concerns about a particular classroom experience, a specific curricular matter, or a faculty member's actions that seem not to be consistent with the highest ideals of our community. Different kinds of academic concerns and complaints will require different approaches to resolve them satisfactorily. The student should speak first with his or her advising dean who will help the student determine how best to proceed. It may, for example, be the case that the issue is best taken up with the student's instructor. If, after a discussion with the advising dean, it is clear that the student does not feel comfortable speaking directly with the instructor, the advising dean will then advise and support the student in a different course of action.

For all procedures that are handled in the College, we attempt first to resolve issues on an informal and educational basis, making sure that those involved

understand each other's point of view, before moving toward more formal procedures of complaint and redress. In every case we seek to address issues in a timely manner (see Timeframe for Proceedings) at the most immediate level available, before moving up to higher levels of authority and responsibility.

### **CONCERNS ABOUT GRADES OR OTHER ACADEMIC ASSESSMENTS**

The awarding of grades and all other academic evaluations rests entirely with the faculty. If a student has a concern relating to a particular grade or other assessment of his or her academic work, the student first should speak with the instructor of the class to understand how the grade or other evaluation was derived and to address the student's specific concern. If the student does not feel comfortable speaking with the class instructor about the matter, he or she should bring the issue to the attention of the department chair, the director of undergraduate studies, or his or her advising dean in order to seek advice on how best to address the issue.

If the student is unable thus to resolve the matter to his or her satisfaction and believes that a procedural issue is involved, the student should bring the matter to the attention of the Dean of Academic Affairs. The dean will work with the student and the faculty to determine whether there has been a procedural breach and, if so, take immediate steps to remedy the matter. If relevant faculty other than the instructor, together with the dean, decide that the grade or other academic evaluation was appropriate, given class assignments and circumstances, the student will be informed and the decision will be final.

### **COMPLAINTS INVOLVING A FACULTY MEMBER**

The Columbia faculty hold themselves to the highest professional standards, but from time to time there may be concern that their professional conduct is not consistent with the standards that the faculty have established for themselves. Those rights, duties, and obligations are delineated in the University Statutes and in the Faculty Handbook and can be found on-line at: <http://www.columbia.edu/cu/vpaa/fhb/main.html>.

Consistent with those duties and obligations, conduct that is grievable under these procedures include:

1. failure to show appropriate respect in an instructional setting for the rights of others to hold opinions differing from their own;
2. misuse of faculty authority to promote a political or social cause within an instructional setting;
3. conduct in the classroom or another instructional setting that adversely affects the learning environment.

If a student believes that a faculty member has acted in an unprofessional manner, he or she should first speak with his or her advising dean who will work with the student to review the claim, establish the substance of the complaint, and come to a decision about how best to address the concerns raised by the student. If appropriate, the advising dean will refer the student to the Dean of Academic Affairs who, working with relevant faculty, will investigate the matter fully and attempt to resolve the matter. If the matter remains unresolved and the dean decides that further action is warranted, he or she may refer the matter to the Vice President for Arts and Sciences.

If at any time a student believes the process is not working in a constructive or timely fashion, the student may always call the Dean of the College. If the instructor is not a member of the Arts and Sciences faculty, the advising dean will assist the student to identify the appropriate faculty and the right procedures. Each school has its own grievance procedures and they are posted on individual schools' Web sites.

The University has alternate procedures to address other specific concerns.

If the alleged misconduct involves discrimination and sexual harassment, the complaint should be filed with the Associate Provost for Equal Opportunity and Affirmative Action. For information on the procedures for handling such complaints see Discrimination and Sexual Harassment Policy and Procedure in this bulletin or on-line at [http://www.columbia.edu/cu/vpaa/eoaa/docs/discrim\\_sexharass.html](http://www.columbia.edu/cu/vpaa/eoaa/docs/discrim_sexharass.html).

Complaints against the school's faculty that allege scientific or scholarly misconduct are also evaluated using other procedures. These are contained in

the Statement on Professional Ethics and Faculty Obligations and Guidelines for Review of Professional Misconduct, available on-line at <http://www.columbia.edu/cu/vpaa/fhb/app/appe>.

The policy on romantic relationships can be found in the Romantic Relationship Advisory Statement in this bulletin or on-line at <http://www.columbia.edu/cu/vpaa/eoaa/docs/romance.html>.

### **TIMEFRAME FOR PROCEEDINGS**

A student should ordinarily bring any concern or complaint within thirty (30) days of the end of the semester in which the offending conduct occurred or by the beginning of the following semester. The school process will ordinarily take thirty (30) days.

### **Confidentiality**

At every level, those involved recognize and respect a student's need for confidentiality when addressing certain kinds of concerns. If the student wishes complete confidentiality, any concern may be raised with the University's Ombuds Officer, a neutral complaint handler for the University. The office offers a range of options and communication channels. Students, however, must be aware that the Ombuds Office has no authority to adjudicate a complaint; it is there as a confidential resource to students, faculty and administrators to advise on various avenues of redress and to mediate disputes, if both parties agree.

### **SEXUAL ASSAULT, SEXUAL HARASSMENT AND GENDER-BASED HARASSMENT POLICIES**

In situations involving allegations of sexual assault, sexual harassment and gender-based harassment, students should consult: (<http://facets.columbia.edu/sexual-assault-policy-and-disciplinary-procedure>).

### **RELIGIOUS HOLIDAYS**

It is the policy of the University to respect its members' religious beliefs. In compliance with New York State law, each student who is absent from school because of his or her religious beliefs will be given an equivalent opportunity to register for classes or make up any examination, study, or work requirements that he or she may have missed because of such absence on any particular day or days. No student will be penalized for absence due to religious beliefs, and alternative means will be sought for satisfying the academic requirements involved. Officers of administration and of instruction responsible for scheduling of academic activities or essential services are expected to avoid conflict with religious holidays as much as possible. If a suitable arrangement cannot be worked out between the student and the instructor involved, they should consult the appropriate dean or director. If an additional appeal is needed, it may be taken to the Provost.

### **GRADUATION**

The B.A. degree is awarded three times during the year: in February, May, and October. There is one commencement ceremony in May.

### **Application or Renewal of Application for the Degree**

Students pick up and file applications for their degree at the Academic Advising Center. General deadlines for applying for graduation are August 1 for October, November 1 for February, and December 1 for May. (When a deadline falls on a weekend or holiday, the deadline moves to the next business day.) Students who fail to earn the degree by the conferral date for which they applied must file another application for a later conferral date.

### **Diplomas**

There is no charge for the preparation and conferral of an original diploma. Your name will be printed exactly as it appears on your transcript. Check your transcript,

and if you find errors, contact the Registrar (210 Kent) before you file the degree application. If you wish to change your name, you must submit the Name Change Affidavit located on the back of the degree application form. The affidavit must be notarized and filed by the application deadline. If your diploma is lost or damaged, there will be a charge of \$100 for a replacement diploma. Note that replacement diplomas carry the signatures of current University officials. Applications for replacement diplomas are available at <http://registrar.columbia.edu/registrar-forms/application-replacement-diploma>

For additional information see the following Web sites:

<http://www.columbia.edu/cu/registrar/docs/forms/app-for-deg-or-cert.html>

<http://www.columbia.edu/cu/registrar/docs/students/graduation-and-diplomas/>

<http://www.columbia.edu/cu/ceremonies/commencement/>



# Departments of Instruction

## KEY TO COURSE LISTINGS

This section contains a description of the curriculum of each department in the College, along with information regarding degree requirements for majors and concentrators, elective courses, and suggestions about courses and programs in related fields. Specific course information including descriptions and registration information can be found on-line at <http://www.college.columbia.edu/bulletin>.

## How Courses Are Numbered

Each course number consists of one or two capital letters followed by four digits. The *capital letters* indicate the University division or affiliate offering the course:

A	Architecture, Planning, and Preservation	L	Law
B	Business	M	Medicine
BC	Barnard College	P	Public Health
C	Columbia College	R	School of the Arts
E	Engineering and Applied Science	S	Summer Session
F	General Studies	T	Social Work
G	Graduate School of Arts and Sciences	TA–TZ	Teachers College
H	Reid Hall, Paris	U	International and Public Affairs
I	Berlin Consortium Program	V	Interschool course with Barnard
J	Journalism	W	Interfaculty course
K	Continuing Education	Z	American Language Program

The *first digit* indicates the level of the course. Generally levels are indicated as follows:

- 0 Course that cannot be credited toward any degree
- 1 Undergraduate course
- 2 Undergraduate course, intermediate
- 3 Undergraduate course, advanced
- 4 Graduate course that is open to qualified undergraduates
- 6 Graduate course
- 8 Graduate course, advanced
- 9 Graduate research course or seminar

Two consecutive numbers that are joined with a hyphen indicate a course that runs through both terms (e.g., *HUMA C1001-C1002*). The first half is prerequisite to the second half, unless the course description says otherwise.

## Directory of Classes

Room assignments, days and hours, and course changes for all courses are published in the on-line *College Bulletin* which links to the *Directory of Classes*. Students should use their school bulletin for registration purposes as not all courses in the *Directory of Classes* are open to all students.

The College reserves the right to withdraw or modify the courses of instruction or to change the instructors at any time.

# African Studies

## Undergraduate Advisers:

Prof. Hlonipha Mokoena, 452 Schermerhorn Extension, 854-2386,  
ham2101@columbia.edu

Prof. Gregory Mann, 615 Fayerweather, 854-3168, gm522@columbia.edu

**Program Office:** Institute of African Studies, 201 Knox Hall, 854-4633

## Interdepartmental Committee on African Studies

Hisham Aidi  
School of International and Public  
Affairs

Taoufik Ben-Amor  
Middle Eastern, South Asian, and  
African Studies

George Bond  
Teachers College

Zoë Crossland  
Anthropology

Souleymane Bachir Diagne  
French and Romance Philology;  
Philosophy

Mamadou Diouf  
History; Middle Eastern, South Asian,  
and African Studies

Abosede George  
History (Barnard)

Macartan Humphreys  
Political Science

Ousmane Kane  
School of International and Public  
Affairs

Brian Larkin  
Anthropology (Barnard)

Mahmood Mamdani  
Anthropology; Middle Eastern, South  
Asian, and African Studies

Gregory Mann  
History

Hlonipha Mokoena  
Anthropology

Rosalind Morris  
Anthropology

Emmanuelle Saada  
French and Romance Philology

Joseph Slaughter  
English and Comparative Literature

Marième Sy  
Middle Eastern, South Asian, and  
African Studies

Zoë Strother  
Art History and Archaeology

Susan Vogel  
Art History and Archaeology

The African studies program is designed to introduce students to the intensive study of Africa through methodological and theoretical training across disciplines. All students take common core courses, learn an African language, and study or conduct research in Africa. An introductory course develops a critical vocabulary for engagement with Africa and its intellectual history. Interdisciplinary work prepares students to engage with Africa's rich heterogeneity and trains them in the multiple disciplines that compose African Studies as an academic field of inquiry. Training in an African language and study or supervised research on the continent ensures that students develop their skills of analysis in a concrete fashion and on its own terms. Given the interdisciplinary nature of the program, students are expected to work especially closely with the undergraduate adviser in order to choose appropriate courses for their specialty that satisfy all of the requirements.

## DEGREE REQUIREMENTS

### Regulations for African Studies Majors and Concentrators

#### DECLARING A MAJOR OR CONCENTRATION

Students cannot declare a major or concentration in African studies on-line. Students should obtain a Major Declaration form from their advising dean and bring it to the program office for approval by the undergraduate adviser. The undergraduate adviser meets with students as necessary in order to establish and approve their individual programs of study.

## GRADING

Courses in which the grade of D has been received do not count toward the major or concentration requirements, nor do those taken Pass/D/Fail except for the first course taken toward the major or concentration.

### For a Major in African Studies

The major requires 12 courses and a semester in Africa as follows:

1. An introductory course in African studies: For 2010-2011 the introductory course is: *ANTH V2010 Major debates in the study of Africa*
2. Four semesters (2 years) of study of an African language: Arabic, Pulaar, Swahili, Wolof and Zulu are currently offered
3. Four Africa-related courses from one of the following departments: anthropology, art history and archaeology, comparative literature and society, economics, English and comparative literature, French and romance philology, history, Middle Eastern, South Asian, and African studies, music, political science or women's and gender studies
4. Two Africa-related courses from a second of the above-listed departments
5. One semester of study or supervised research in Africa: a current list of programs approved by the Office of Global Programs is available at <http://www.ogp.columbia.edu/programs/africa/index.html>

### For a Concentration in African Studies

The concentration requires 7 courses as follows:

1. An introductory course in African studies: For 2010-2011 the introductory course is: *ANTH V2010 Major debates in the study of Africa*
2. Three Africa-related courses from the departments listed for the major
3. One Africa-related course from another of the departments listed for the major
4. Two semesters (1 year) of study of an African language.
5. One semester of study or research in Africa is strongly encouraged

# African-American Studies

**Interim Director of the Institute for Research in African-American Studies:** Prof. Fredrick Harris, 758 Schermerhorn Extension, 854-6593; fh2170@columbia.edu

**Director of Undergraduate Studies:** Dorian T. Warren, 1431 International Affairs Building; 854-4659; dw2288@columbia.edu

**Assistant Director:** Shawn Mendoza, 758 Schermerhorn Extension; 854-8789; sm322@columbia.edu

**Administrative Assistant:** Sharon Harris, 758 Schermerhorn Extension; 854-7080; sh2004@columbia.edu

**Institute for Research in African-American Studies:** 758 Schermerhorn Extension; 854-7080

**URL:** <http://www.columbia.edu/cu/iraas/>

## Senior Faculty

Steven Gregory (Anthropology)  
Farah J. Griffin (English and Comparative Literature)  
Fredrick C. Harris (Political Science)  
Kellie E. Jones (Art History and Archaeology)  
Sudhir A. Venkatesh (Sociology)

## Junior Faculty

Samuel K. Roberts (History)  
Carla Shedd (Sociology)  
Josef Soret (Religion)  
Dorian Warren (Political Science)  
Carl Hart (Psychology)

## Affiliated Faculty

Marcellus Blount (English and Comparative Literature)  
George Bond (Anthropology)  
Christopher Brown (History)  
Maguette Camara (Dance, Barnard)  
Mamfou Diouf (Middle Eastern, South Asian, and African Studies)

## Affiliated Faculty (continued)

Ann Douglas (English and Comparative Literature)  
Barbara Fields (History)  
Eric Foner (History)  
Saidiya Hartman (English and Comparative Literature)  
Ousmane Kane (School of International and Public Affairs)  
Rashid Khalidid (History)  
George E. Lewis (Music)  
Natasha Lightfoot (History)  
Mahmood Mamdani (Anthropology)  
Gregory Mann (History)  
Lionel C. McIntyre (School of Architecture, Planning, Preservation)  
Alondra Nelson (Sociology)  
Robert O'Meally (English and Comparative Literature)  
Valerie Purdie-Vaughns (Psychology)  
David Scott (Anthropology)  
John Swzed (Music)

The Institute for Research in African-American Studies was established at Columbia in 1993, expanding the University's commitment to this field of study. The African-American studies curriculum explores the historical, cultural, social, and intellectual contours of the development of people of African descent. The curriculum enables students to master the basic foundations of interdisciplinary knowledge in the humanities and social sciences in the black American, Caribbean, and sub-Saharan experience. Courses examine the cultural character of the African diaspora; its social institutions and political movements; its diversity in thought, belief systems, and spiritual expressions; and the factors behind the continuing burden of racial inequality. During their junior and senior years of study, students focus their research within a specific discipline or regional study relevant to the African diaspora. Students should consider a major in African-American studies if they are interested in careers where strong liberal arts preparation is needed, such as fields in the business, social service, or government sectors. Depending on one's area of focus within the major, the African-American studies program can also prepare individuals for career fields like journalism, politics, public relations, and other lines of work that involve investigative skills and working with diverse groups. A major in African-American studies can also train students in graduate research skills and methods, such as archival research, and is very useful for individuals who are considering an advanced graduate degree such as the Ph.D.

The Institute for Research in African-American Studies sponsors research projects, colloquia, and academic conferences that are open to the Columbia community; students who major or concentrate in African-American studies receive information

about these and related events. African-American studies majors and concentrators may also use the independent study course offering to conduct research on one or more of these faculty-sponsored projects. All inquiries concerning degree requirements should be forwarded to the director of undergraduate studies. Inquiries concerning course offerings and Institute-sponsored events should be forwarded to the assistant director.

### Departmental Honors

The requirements for departmental honors in African-American studies are as follows:

1. all requirements for major must be completed by graduation date
2. minimum grade point average of 3.6 in the major
3. completion of senior thesis—due to the director of undergraduate studies on the first Monday in April.

A successful thesis for departmental honors must be selected as the most outstanding paper of all papers reviewed by the thesis committee in a particular year. The Thesis Evaluation Committee is comprised of department faculty and led by the director of undergraduate studies. The thesis should be of superior quality, clearly demonstrating originality and excellent scholarship, as determined by the committee. Normally no more than 10 percent of graduating majors receive departmental honors in a given year.

### The African-American Studies Thesis

Although the senior thesis is a prerequisite for consideration for departmental honors, all African-American studies majors are strongly encouraged to consider undertaking thesis work even if they are ineligible or do not wish to be considered for departmental honors. The senior thesis gives undergraduate majors the opportunity to engage in rigorous, independent, and original research on a specific topic of their choosing, the result of which is a paper of 35-60 pages in length. In particular, students who are contemplating graduate work of any sort should seriously consider the benefits of thesis research. It is strongly recommended that students begin consideration and exploratory reading of a thesis topic during their junior year, a strategy which proves to make the senior year research and writing process much more productive. The UndEC strongly recommends that, prior to embarking on a thesis, the student purchase and read Kate L. Turabian, *A Manual for Writers of Term Papers, Theses, and Dissertations* (University of Chicago Press) and Wayne C. Booth, Gregory G. Colomb, and Joseph M. Williams, *The Craft of Research*, (University of Chicago Press).

The senior thesis must be written under the supervision of at least one faculty member. Should the thesis writer elect to have more than one thesis adviser (either from the outset or added on during the early stages of research), these faculty in the aggregate comprise the Thesis Committee, of which one faculty member must be designated chair. In either case, it is incumbent upon the thesis writer to establish with the thesis chair and committee a reasonable schedule of deadlines for submission of outlines, chapters, bibliographies, drafts, etc. In many cases, the thesis writer may find that the most optimal way in which to complete a thesis is to formally enroll in an independent study course (C3997 for fall or C3998 for spring) with the thesis adviser.

All students interested in writing a thesis should notify the director of undergraduate studies and submit the name of the faculty adviser ideally by October 1st, but certainly no later than the end of the fall semester. In close consultation with the thesis adviser, the student should develop a viable topic, a schedule of meetings, a bibliography, and a timeline for completion (including a schedule of drafts and outlines).

### DEGREE REQUIREMENTS

#### For a Major in African-American Studies

The major should be arranged in consultation with the director of undergraduate studies. Students interested in majoring should plan their course of study not later than the end of their sophomore year. A minimum of 36 points is required for the major as follows:

1. *AFAS C1001 Introduction to African-American studies*
2. *AFAS C3936 Colloquium: Black intellectuals*
3. One senior research seminar
4. A minimum of four courses in the governed electives category, which provides an interdisciplinary background in the field of African-American studies. Such electives must be drawn from at least three different departments. Of these, one must be a literature course; one must be a history course; and one must focus primarily on cultures and societies located in Africa or within the African diaspora outside of the United States, such as the Caribbean or Latin America.
5. Five courses must be taken within a designated area of study, preferably within a distinct discipline (e.g., anthropology, English, sociology, political science, history). Students may also select their five courses within a distinct regional or geographical area within the African diaspora (e.g., sub-Saharan Africa). One of these five courses must be a seminar.

### **For a Concentration in African-American Studies**

A minimum of 24 points is required for the concentration. All students must take the introductory course, *AFAS C1001 Introduction to African-American studies*. Within the governed elective category, a minimum of 9 points must be taken. Of these, one course must be selected from the humanities; one course must be in the social sciences; and one must focus primarily on non-U.S. cultures and societies within the African diaspora and sub-Saharan Africa. Additionally, a minimum of 12 points must be acquired from courses within a designated area of study, such as a specific discipline or a regional area (e.g., Africa). One of the courses taken to fulfill either the governed electives category or the designated area of study category must be either *AFAS C3936 Colloquium: Black intellectuals* or a research seminar.

## American Studies

**Program Director:** Prof. Andrew Delbanco, 321 Hamilton Hall; 854-6698; ad19@columbia.edu

**Associate Director:** Prof. Robert Amdur, 725 IAB; 854-4049; rla2@columbia.edu

**Chair, Service Learning Committee:** Prof. Casey Blake, 504 Fayerweather; 854-1785; cb460@columbia.edu

**Assistant Director:** Angela Darling, 319 Hamilton Hall; 854-6698; amd44@columbia.edu

**Chair, Advisory Board:** Prof. Robert Amdur, 725 IAB; 854-4049; rla2@columbia.edu

**Program Office:** 319-321 Hamilton Hall; 854-6698

**URL:** <http://www.columbia.edu/cu/amstudies/>

### Affiliated Faculty

Rachel Adams  
English and Comparative Literature

Casey N. Blake  
History; American Studies

Jeremy Dauber  
Germanic Languages

Andrew Delbanco  
Humanities

Robert A. Ferguson  
English and Comparative Literature;  
Law

Eric Foner  
History

Todd Gitlin  
Journalism; Sociology

Farah Griffin  
English and Comparative Literature

Alice Kessler-Harris  
American History

Rebecca Kobrin  
History

Roosevelt Montas  
Core Curriculum

Ross Posnock  
English and Comparative Literature

Wayne Proudfoot  
Religion

Rosalind Rosenberg  
History (Barnard)

Maura Spiegel  
English and Comparative Literature

The American studies program offers students the opportunity to explore the experience and values of the people of the United States as embodied in their history, literature, politics, art, and other enduring forms of cultural expression. The program seeks to prepare students to confront with historical awareness the pressing problems that face our society. The program takes advantage of our location in New York by involving students with the life of the city, working with community service organizations such as the Double Discovery Center, which serves disadvantaged high school students, and by inviting leading figures on the New York political and cultural scene to participate in colloquia, public conferences, and in the classroom. It is an interdisciplinary program designed to be open and flexible while taking seriously the challenge of striving for a liberal education that helps prepare students for responsible citizenship.

### Departmental Honors

Students with a 3.6 minimum GPA in the major and an outstanding senior project will be considered for honors. Normally, no more than 10 percent of graduating majors receive departmental honors in a given year.

### DEGREE REQUIREMENTS

#### DECLARING THE MAJOR

Although students generally declare their major or concentration in the spring of their sophomore year, students may want to take electives early on in areas that interest them but that later connect with the American studies major.

## ADVISING

Each American studies major or concentrator is assigned an academic adviser who monitors his or her progress through graduation. With at least ten advisers for each academic year, students are assured of individual attention and guidance. Advisers meet with students at least twice a semester.

## GRADING

A grade lower than C- cannot be counted toward the major or concentration in American studies. A grade of C- can be counted only with the approval of the director or associate director. Pass/D/Fail courses do not count toward the major or concentration unless the course was taken before the student declared the major or concentration.

### For a Major in American Studies

A minimum of 30 points is required to complete the major:

1. *AMST W1010 Introduction to American studies: major themes in the American experience* (3 pts)
2. Two seminars in American studies (8 pts)
3. Two American studies core courses (6 pts)
  - *ENGL W3267 Foundations of American literature I* (3 pts)
  - *HIST W3478 U.S. intellectual history, 1865-present* (3 pts)
4. Three additional courses (9 pts): In consultation with the adviser, the student will choose a set of three courses. These courses must be drawn from at least two departments, one of which must be history.
5. Senior research project (4 pts): The final requirement for the major in American studies is completion of a senior essay, to be written in the spring of senior year. Alternatively, students may fulfill this requirement by taking an additional seminar where a major paper is required or by writing an independent essay under the supervision of a faculty member. Seniors who wish to do a senior research project are required to take the *Senior project colloquium* in the fall of the senior year.

### For a Concentration in American Studies

A minimum of 21 points is required as follows:

1. *AMST W1010 Introduction to American studies: major themes in the American experience* (3 pts)
2. Two American studies core courses (6 pts): *ENGL W3267 foundations of American literature I* (3 pts), *HIST W3478 U.S. intellectual history, 1865-present* (3 pts)
3. Four additional courses (12 pts). In consultation with the adviser, the student will choose a set of four courses. These courses must be drawn from at least two departments, one of which must be history.



# Ancient Studies

**Director of Undergraduate Studies:** Prof. Marcus Folch, 610 Hamilton; 854-3902;  
mf2664@columbia.edu

**Program Administrator:** Gerry Visco, 617 Hamilton; 854-2726; gvv1@columbia.edu

**Program Office:** 617 Hamilton; 854-3902; classics@columbia.edu

**URL:** <http://www.columbia.edu/cu/cam/ancientstudies/ancientstudies.htm>

<http://www.columbia.edu/cu/classics/>

The purpose of this program is to enable the student to explore the cultural context of the ancient Mediterranean as a whole while concentrating on one specific Mediterranean or Mesopotamian culture. Central to the concept of the program is its interdisciplinary approach, in which the student brings the perspectives and methodologies of at least three different disciplines to bear on his or her area of specialization. Faculty participating in the program are scholars specializing in all aspects of ancient culture and civilization from the Departments of Anthropology; Art History and Archaeology; Classics; History; Middle Eastern, South Asian, and African Studies; Philosophy; and Religion, ensuring that a wide variety of approaches are available.

Course offerings vary year to year. Students are required to discuss their program prior to or during registration. The culmination of the ancient studies major comes in the senior year, when students with different areas of specialization come together to share their ideas in the senior seminar and then to write a substantial piece of original research. Students should think about topics for their senior paper during the junior year and find a faculty adviser at the beginning of the fall term of their senior year, after consulting the director of undergraduate studies. In the senior year students register for the *Senior seminar in ancient studies (ANCS V3995)* during the fall, and *Directed research in ancient studies (ANCS V3998)* is usually taken during the spring. Sections should be arranged directly with the departmental administrator after finding an adviser.

## DEGREE REQUIREMENTS

### Regulations for all Ancient Studies Majors

#### GRADING

Advanced placement credits and courses passed with a grade of D may not be counted toward the major.

#### COURSES

In an interdisciplinary program, courses that are available may on occasion have a substantial overlap in content. Since credit cannot be given twice for the same work, no courses may be counted toward the major that overlap significantly with courses already taken or in progress. It is the student's responsibility to discuss his or her program with the director of undergraduate studies well in advance and to provide him or her with all the necessary information on the courses concerned, since failure to do so may result in a course not being counted after it has already been taken.

Any course in the Department of Classics may be credited toward the major.

### For a Major in Ancient Studies

36 points are required, including the following:

1. At least two but not more than four introductory courses. Following is a sample of courses that fulfill the requirement, but as course offerings vary year to year, please check with the director of undergraduate studies to select appropriate available courses. Among the introductory courses chosen must be the basic history course in the student's culture of specialization, if available.

- *HSME W1002 Ancient history of Mesopotamia and Anatolia*
  - *HIST W1010 Survey of ancient Greek history, 800–146 B.C.*
  - *HIST W1020 The Romans, 754–565 A.D.*
  - *AHIS V3248 Greek art and architecture*
  - *AHIS V3250 Roman art and architecture*
  - *PHIL V2101 History of philosophy, I: pre-Socratics through Augustine*
  - *RELI V3501 Introduction to the Hebrew Bible*
  - *RELI V3502 Judaism in the time of Jesus*
  - *CLAH V3132 Classical myth*
2. At least two language courses at the 1200 level or above. The minimum language requirement must be completed by the end of the first semester of the student's senior year, so that the student is equipped to use sources in the original language in their thesis. Students are strongly urged to begin study of an ancient language as soon as possible and to complete more than the minimum requirements, since the best way to gain an understanding of a culture is through the actual words of its people. Those considering graduate work on the ancient world should also be aware that most graduate schools require more than two years of undergraduate language training for admission. The language offered in fulfillment of this requirement should match the student's area of specialization; special arrangements are available with other universities for students whose specializations require languages not normally taught at Columbia. Students entering with expertise in their chosen languages are placed in advanced courses as appropriate but are still required to complete at least two semesters of language courses at Columbia; exceptions to this policy may be made in the case of languages not normally taught at Columbia. Language courses at the 1100 level may not be counted toward the major. Language courses, including those at the 1100 level, must be taken for a letter grade. At least two advanced courses at the 3000 or 4000 level not appearing on the list of introductory courses.
  3. *ANCS V3995 Senior seminar in ancient studies* (fall term of the senior year)
  4. *ANCS V3998 Directed research in ancient studies* (spring term of the senior year)
  5. The breadth requirement is the final set of courses required for the major and must contain courses from at least three different departments (to ensure proper interdisciplinary training and experience), and at least three courses in the student's area of specialization (in addition to the required language and history courses). In addition, majors are reminded that the focus of this major is the ancient Mediterranean world as a whole and are advised not to study only one culture to the exclusion of the others. Those who miss the opportunity to take courses on a diverse set of ancient cultures may find themselves at a disadvantage in the major seminar.

# Anthropology

**Director of Undergraduate Studies:** Prof. John Pemberton, 858 Schermerhorn Extension; 854-7463; jp373@columbia.edu

**Departmental Consultants:**

*Archaeology:* Prof. Zoe Crossland, 965 Schermerhorn; 854-7465; zc2149@columbia.edu  
*Biological/Physical Anthropology:* Prof. Ralph Holloway, 856 Schermerhorn; 854-4570; rlh2@columbia.edu

**Departmental Administrator:** Patrick McMorrow, 452 Schermerhorn; 854-4552; pm25@columbia.edu

**Undergraduate Secretary:** Marilyn Astwood, 452 Schermerhorn; 854-4552; mp20@columbia.edu

**Departmental Office:** 452 Schermerhorn; 854-4552

**URL:** <http://www.columbia.edu/cu/anthropology>

**Professors**

Alexander Alland, Jr. (emeritus)  
 Lila Abu-Lughod  
 Partha Chatterjee  
 Myron L. Cohen  
 Terence D'Altroy  
 E. Valentine Daniel  
 Nicholas B. Dirks  
 Steven Gregory  
 Ralph L. Holloway  
 Claudio Lomnitz  
 Mahmood Mamdani  
 Brinkley Messick  
 Rosalind Morris  
 Elizabeth Povinelli  
 Nan Rothschild (Barnard, emerita)  
 David Scott  
 Lesley A. Sharp (Barnard)  
 Michael Taussig

**Associate Professors**

Nadia Abu El-Haj (Barnard)  
 Elaine Combs-Schilling  
 Marilyn Ivy  
 Brian Larkin (Barnard)

**Associate Professors (continued)**

Neni Panourgia  
 John Pemberton  
 Paige West (Barnard)

**Assistant Professors**

Zoe Crossland  
 Severin Fowles  
 Nicholas P. De Genova  
 Paul Kockelman (Barnard)  
 Hlonipha Mokoena  
 Audra Simpson  
 Maxine Weisgrau (Barnard)

**Adjunct Professors**

Brian Boyd  
 Margaret Vail

**Lecturers**

Ellen Marakowitz  
 Karen Seeley

**Research Associate**

Ellen Morris

Anthropology at Columbia is the oldest department of anthropology in the United States. Founded by Franz Boas in 1896 as a site of academic inquiry inspired by the uniqueness of cultures and their histories, the department has fostered an expansiveness of thought and independence of intellectual pursuit. Cross-cultural interpretation, global socio-political considerations, a markedly interdisciplinary approach, and a willingness to think otherwise have, from the outset, informed the spirit of anthropology at Columbia. Boas himself wrote widely on pre-modern cultures and modern assumptions, on language, race, art, dance, religion, politics, and much else, as did his graduate students including, most notably, Ruth Benedict and Margaret Mead. In these current times of increasing global awareness, this same spirit of mindful interconnectedness guides the department. Professors in anthropology at Columbia today write widely on colonialism and postcolonialism; on matters of gender, theories of history, knowledge, and power; on language, law, magic, mass-mediated cultures, modernity, and flows of capital and desire; on nationalism, ethnic imaginations, and political contestations; on material cultures and environmental conditions; on ritual, performance, and the arts; on linguistics, symbolism, and questions of representation. They write as well across worlds of similarities and differences concerning the Middle East, China, Africa, the Caribbean, Japan, Latin America, South Asia, Europe, Southeast Asia, North America, and other increasingly transnational and technologically virtual conditions of being.

The Department of Anthropology has traditionally offered courses and majors in three main areas: sociocultural anthropology, archaeology, and biological/physical anthropology. While sociocultural anthropology now comprises the largest part of the department and accounts for the majority of faculty and course offerings, archaeology is also a vibrant program within anthropology whose interests overlap significantly with those of sociocultural anthropology. Recently, biological/physical anthropology has shifted its program for majors and concentrators. Students interested in biological/physical anthropology courses offered in the Department of Anthropology thus should look to the Department of Ecology, Evolution, and Environmental Biology for their major or concentration.

The Anthropology Department enthusiastically encourages cross-disciplinary and participation in study-abroad programs.

### **Sociocultural Anthropology**

At the heart of sociocultural anthropology is very much a concern with possibilities of difference and the craft of writing. Sociocultural anthropology at Columbia has emerged in recent years as a particularly compelling undergraduate liberal arts major. In the last year or two, the number of majors in this area has more than doubled. Undergraduates come to sociocultural anthropology with a wide variety of interests, often pursuing overlapping interests in, for example, performance, religion, writing, law, ethnicity, mass-media, teaching, language and literature, history, human rights, art, linguistics, environment, medicine, film, and many others fields of study, including geographical areas of particular interest and engagement. Such interests can be brought together into provocative and productive conversation with a major or concentration in sociocultural anthropology. The requirements for a major in sociocultural anthropology reflect this expansiveness and the spirit of sociocultural anthropology at Columbia is genuinely interdisciplinary.

### **Archaeology**

Archaeologists study the ways in which human relations are mediated through material conditions, both past and present. Particular emphases in the program include the rise of ancient states and empires, especially in the indigenous Americas; the impact of colonial encounters on communities in the American Southwest and highland Madagascar; the development of urbanism, especially in New York City; and human-animal relations, particularly in the prehistoric Levant. Issues include the political, economic, social, and ideological foundations of complex societies; archaeological theory and its relationship to broader debates in social theory, technology studies and philosophy. Faculty members also teach and research on questions of museum representations, archaeological knowledge practices, and the socio-politics of archaeology. Archaeology in the Department of Anthropology at Columbia is genuinely interdisciplinary in spirit. The program includes the possibility of student internships in New York City museums and archaeological fieldwork in the Americas and elsewhere.

### **Biological/Physical Anthropology**

Biological/physical anthropology introduces students to the study of evolution, genetics, morphology, and behavioral ecology of human and nonhuman primates. Courses in environmental biology and related subjects, offered through the Department of Ecology, Evolution, and Environmental Biology are in conversation with and augment those available through the Department of Anthropology. Students may develop opportunities to conduct research in conjunction with Columbia faculty, or in related institutions like the American Museum of Natural History and the Wildlife Conservation Society (Bronx Zoo).

## DEGREE REQUIREMENTS

### Regulations for all Anthropology Majors and Concentrators

#### ADVISING

Majors and concentrators should consult the director of undergraduate studies and/or relevant archaeology or biology anthropology consultants as listed above when entering the department and devising their program of study. Students who develop specialized interests within the department may select any willing faculty member as their adviser. Many faculty in anthropology at Columbia hold degrees in several fields or positions in other departments and programs at Columbia. All faculty in the department are committed to an expansiveness of thought and an independence of intellectual pursuit and advise accordingly.

#### GRADING

No course with a grade of D or lower can count toward the major or concentration. Only the first course that is to count toward the major or concentration can be taken Pass/D/Fail.

#### COURSES

Courses from other departments count toward the major or concentration when they are taught by a member of the Department of Anthropology. Courses from other departments not taught by an anthropology faculty member may sometimes count toward the major or concentration with the approval of the director of undergraduate studies.

All courses taken in Barnard's Anthropology Department fully count toward the anthropology major at Columbia. Anthropology courses taken to fulfill College requirements count toward the major.

#### HONORS THESIS

Anthropology majors with a minimum grade point average of 3.6 in the major who wish to write an honors thesis for consideration for departmental honors may elect to enroll in the *Honors seminar* (3999, 8 points). Students should have a preliminary concept for their thesis prior to enrolling in the course.

#### For a Major in Anthropology

The program of study should be planned as early as possible in consultation with the director of undergraduate studies and/or departmental consultants.

A minimum of 30 points in the Department of Anthropology and 6 points of related courses taken in other departments are required as follows:

#### SOCIOCULTURAL ANTHROPOLOGY

1. *ANTH V1002 The Interpretation of culture*
2. *ANTH V2004 Introduction to social and cultural theory*
3. *ANTH V2005 The ethnographic imagination*
4. Two courses (from within anthropology or from another department) that focus on a particular culture, nation, or literature
5. Additional courses (from within anthropology or from another department) to meet the required minimum points for the major

#### ARCHAEOLOGY

1. *ANTH V1007 The origin of human society*
2. *ANTH V1008 The rise of civilization*
3. Additional courses (from within anthropology or from another department) to meet the required minimum points for the major

An example of an archaeology specialization is: *V3820 Archaeological theory and method*, *V3922 The emergence of the state*, *V4344 The Inka empire*; one set of paired courses in archaeology and sociocultural anthropology or history in the same

region (e.g., *G4117—North American prehistory* and a sociocultural or historical course in early or native North America or *V3931—Social life in ancient Egypt* and a relevant history, classics, or sociocultural course concerning Egypt); and two to four upper-division anthropology courses to be arranged with the adviser.

### **BIOLOGICAL/PHYSICAL ANTHROPOLOGY**

Students pursuing a major in this field should refer to the major in evolutionary biology of the human species in the Department of Ecology, Evolution, and Environmental Biology.

#### **For a Concentration in Anthropology**

A minimum of 20 points in the Department of Anthropology are required as follows:

### **SOCIOCULTURAL ANTHROPOLOGY**

1. *ANTH V1002 The interpretation of culture*
2. Additional courses (from within anthropology or from another department) to meet the required minimum points for the concentration

### **ARCHAEOLOGY**

1. *ANTH V1007 The origins of human society* or *ANTH V1008 The rise of civilization*
2. Additional courses (from within anthropology or from another department) to meet the required minimum points for the concentration

# Archaeology

**Program Director (Anthropology):** Prof. Zoë Crossland, 965 Schermerhorn Extension; 854-7465; [zc2149@columbia.edu](mailto:zc2149@columbia.edu)

**Program Coordinator (Center for Archaeology):** Prof. Brian Boyd, 961 Schermerhorn Extension; 854-1390; [bb2305@columbia.edu](mailto:bb2305@columbia.edu)

**URL:** <http://www.columbia.edu/cu/archaeology>

## Professors

Terence D'Altroy  
Richard Fairbanks  
William V. Harris  
Natalie Kampen (Barnard)  
Stephen Murray  
Esther Pasztory  
Nan Rothschild (Barnard, emerita)  
Marc Van De Mieroop

## Associate Professors

Zainab Bahrani  
Holger Klein  
Kristina Milnor (Barnard)

## Assistant Professors

Francesco Benelli  
Zoë Crossland  
Francesco de Angelis  
Severin Fowles  
Feng Li

## Assistant Professors (continued)

Ioannis Mylonopoulos  
Marco Maiuro

## Adjunct Professors

Brian Boyd  
Pamela Jerome  
Walter Pitman  
John Stubbs  
Norman Weiss  
George Wheeler

## Lecturer

Nikolas Bikirtzis  
Clarence Gifford  
Jill Shapiro  
Deborah Vischak

## Visiting Associate Research Scholar

Ellen Morris

Archaeology is the study of the material conditions inhabited and acted upon by people in the past and present. Investigation of the past through the study of material remains is entangled with historiography, politics, and individual and collective memory, and is implicated in the production of present-day identities. Archaeology has come to mean many things to different generations of scholars, yet all approaches share in common a focus on the physical remains of the past and on the interpretive acts that enliven these remains and are challenged by them.

At Columbia, archaeology is a multidisciplinary field practiced by faculty and students in the humanities, social sciences, and natural sciences. At present, there are faculty in the departments of anthropology, art history and archaeology, classics, East Asian Languages and Cultures, Historic Preservation, History, Middle Eastern, South Asian, and African studies, the Center for Environmental Research and Conservation, the Institute for Research on Women and Gender, and the Lamont-Doherty Earth Observatory, all of whom conduct research on prehistory, ancient society, or historical archaeology.

Among locations in which students and faculty are conducting or participating in field programs are Argentina, Peru, Central America, the North American Southwest, New York City, upstate New York, the UK, France, Italy, Greece, Turkey, Egypt, Yemen, Israel, Palestine, and Madagascar. Archaeologists at Columbia also work with professionals at a wide range of institutions in New York. Among the institutions at which students in particular programs may conduct research, or work on internships, are the American Museum of Natural History, the Brooklyn Museum, the Metropolitan Museum of Art, the Museum of the City of New York, the National Museum of the American Indian, the New York Botanical Garden, and the South Street Seaport Museum.

## Departmental Honors

For the requirements for departmental honors, please check with the program advisers.

## DEGREE REQUIREMENTS

### Regulations for all Archaeology Majors and Concentrators

#### COURSES

It is recommended that archaeology students consider introductory courses in earth and environmental sciences, environmental biology, and/or chemistry for their Core Curriculum science requirement.

For information on upper-level graduate courses and courses in historic preservation, please see the program advisers. Decisions about upper-level, related, or seminar courses that are not on this list and their applicability to the major or concentration in archaeology should be made in consultation with the program advisers.

#### GRADUATE STUDY

Students intending to pursue graduate degrees in archaeology should be aware that a reading knowledge of two languages is often required as part of graduate study. Further, although language courses do not count toward the major or concentration, students are encouraged to acquire language training that is relevant to their particular interests in archaeology.

#### For a Major in Archaeology

The program of study should be planned as early as possible with the program advisers, preferably before the end of the sophomore year, and no later than the beginning of the junior year. A total of 30 points within the major and 9 points of related courses are required for the major as follows:

- Any two of the following introductory courses:
  - ANTH V1007 The origins of human society*
  - ANTH V1008 The rise of civilization*
  - ACLG V2028 Pasts, presents, futures: a critical introduction to 21st-century archaeology* (previously listed as *ACLG W3002*)
- Two upper-level courses from different regions of the world, in addition to three other upper-level courses, planned in consultation with the program advisers.
- Participation of four to six weeks in field projects with which Columbia University is affiliated, or independent study in excavation or other field projects; the school or project must be approved in advance by the program advisers.
- One laboratory course in archaeology or its equivalent in the field, as approved by the program advisers; 3 points.
- A seminar in archaeology, preferably taken in the senior year, to be decided with the advanced approval of the archaeology program adviser.
- Nine points of related courses to be planned with the program advisers in accordance with the student's interests.
- A senior thesis is recommended for students planning to continue for a graduate degree. Topics should be discussed with a faculty adviser during the junior year, allowing time for planning, research, and travel during the following summer. In the senior year, the student may register for the senior thesis course with their adviser (e.g., *ANTH W3997* or *AHIS C3997–C3998*) to cover the writing of the thesis, which must be submitted by March 25.

#### For a Concentration in Archaeology

The program of study should be planned with the program advisers. A total of 21 points from within anthropology, art history and archaeology, and other approved departments, with no more than four courses being taken within any single department. Requirements for the concentration are as follows:

- Any two of the following courses:



- *ANTH V1007 The origins of human society*
  - *ANTH V1008 The rise of civilization*
  - *ACLG V2028 Pasts, presents, futures: a critical introduction to 21st-century archaeology* (previously listed as *ACLG W3002*)
2. Also one seminar or colloquium in the Departments of Anthropology, Art History and Archaeology, Classics, or History, as approved by the program advisers
  3. Three upper-level courses, including at least one from two different regions of the world
  4. One related course

# Architecture

## Academic Advisers:

Prof. Karen Fairbanks, 500N The Diana Center, Barnard; 854-8431; [kfairban@barnard.edu](mailto:kfairban@barnard.edu)

Prof. Kadambari Baxi, 500Q The Diana Center, Barnard; 854-7238; [kbaxi@barnard.edu](mailto:kbaxi@barnard.edu)

Prof. David Smiley, 500K The Diana Center, Barnard; 854-8001; [dsmiley@barnard.edu](mailto:dsmiley@barnard.edu)

**Departmental Assistant:** Raleigh-Elizabeth Smith, 500 The Diana Center, Barnard; 854-8430; [rsmith@barnard.edu](mailto:rsmith@barnard.edu)

**Departmental Office:** 500 The Diana Center, Barnard; 854-8430

**URL:** <http://www.columbia.edu/cu/archprogram/>

## Professor of Practice

Karen Fairbanks (Chair)

## Associate Professor of Practice

Kadambari Baxi

## Assistant Professor

David Smiley (also Urban Studies)

## Adjunct Professors

Joeb Moore

Madeline Schwartzman

Suzanne Stephens

## Adjunct Assistant Professors

Luke Bulman

Maria Gray

Mark Kroeckel

Nicole Robertson

Todd Rouhe

Don Shillingburg

Irina Verona

Kim Yao

Peter Zupan

The major in architecture provides students with the opportunity to explore the discipline of architecture within the context of the College's commitment to liberal arts. The major is introduced through a series of studio and academic courses that explore the multiple relationships between architectural design, history, theory, and criticism. Students are expected to develop technical skills, design excellence, and a critical understanding of architecture as part of our visual, social, and political history and culture. The major is designed to prepare students to work in architecture and related disciplines or pursue graduate study. Most students take advantage of the resources of New York City and the teaching faculty by working in internships in the city while majoring in the field.

The required sequence of courses begins with two introductory design studios, *Architectural representation: abstraction and perception*, and the introductory lecture courses, *Perceptions of architecture*. The introductory studios investigate space, form, scale, and traditional and experimental systems of representation, and *Perceptions of architecture* develops fluency with architectural concepts. Together, these courses provide a foundation of material the major continues to build upon. *Architectural design, I and II* are taken in the junior or senior year. The two-semester design studio introduces students to more rigorous conceptual, social, and theoretical study through comprehensive design projects. Students begin taking elective lecture courses after they have finished Art Humanities, a Core requirement. The distribution of the elective lecture courses is designed to provide students with an exposure to a broad range of architectural history traditions. Senior course work includes a two-course sequence with options for those courses to be senior seminars, advanced elective design studios, or independent research. The curriculum requires that students complement their work in the major with related course work that serves to provide a link between architecture and other social and cultural issues.

Courses in the major, as well as field trips and events for students, take full advantage of our location in New York City. The major has an active student club, Architecture Society, that supports workshops and fieldtrips for students and links students to the larger community. Students produce a journal of their work, *OnSite*, through enrollment in the course *Critical analysis of architectural representation*. The major is designed to accommodate students who wish to study abroad in their junior year.

## Departmental Honors

Senior requirements (portfolio and research paper from a senior seminar or independent research project) are used to award departmental honors. Students must have a grade point average of at least 3.6 in classes for the major. Normally no more than 10 percent of the graduating majors in the department each year will receive departmental honors.

## DEGREE REQUIREMENTS

### For a Major in Architecture

It is recommended that students interested in the architecture major elect *HUMA W1121 Art humanities* in their first year and *ARCH V3101, V3103, and V3117* in their sophomore year.

Architecture majors intending to pursue graduate studies in architecture are advised to elect a year of physics and calculus.

All students are advised to take electives in courses that introduce urban issues, current technologies, and other cross-disciplinary interests.

No course with a grade of D or lower can count toward the major. Only the first course that is to count toward the major can be taken Pass/D/Fail.

The major in architecture requires courses distributed as follows:

1. *ARCH V3101 Architectural representation: abstraction*
2. *V3103 Architectural representation: perception*
3. *V3201 Architectural design, I*
4. *V3202 Architectural design, II*
5. *ARCH V3117 Perceptions of architecture*
6. Four additional courses in architectural history or theory which can be fulfilled by courses in the department as well as courses from the Art History and Archaeology department that are primarily about architectural history, and courses from the Graduate School of Architecture, Planning, and Preservation. A complete list of courses that fulfill these requirements is posted at the department at the beginning of each semester. These courses must be distributed as follows:
  - One course with a topic that is pre-1750
  - One course with a topic that is post-1750
  - Two elective courses, at least one of which should be on a non-Western topic
7. *ARCH V3901 Senior seminar*
8. One additional course chosen from the following:
  - A second senior seminar from the architecture program
  - A seminar from a department related to the student's specialization, with departmental adviser's permission
9. *ARCH V3211 Architectural design, III*
10. *ARCH V3997 or ARCH V3998 Independent research*
11. Three courses, which together focus a student's interest, in a related department or departments. These courses may not overlap with any of the history/theory courses or senior courses and are determined in consultation with the departmental adviser
12. Portfolio and research paper from a senior seminar or independent research project are required in the senior year

# Art History and Archaeology

**Director of Undergraduate Studies:** Prof. Zoe Strother, 914 Schermerhorn; 854-8529; zss1@columbia.edu

**Chair of Art Humanities:** Prof. Jonathan Crary, 917 Schermerhorn; 854-854-3194; jkc4@columbia.edu

**Student Coordinator:** Luke Barclay, 826 Schermerhorn; 854-4505; lb2226@columbia.edu

**Departmental Office:** 826 Schermerhorn; 854-4505

**URL:** <http://www.columbia.edu/cu/arhistory/>

## Professors

Zainab Bahrani  
Barry Bergdoll  
Michael Cole  
Jonathan Crary  
Vidya Dehejia  
David Freedberg  
Robert E. Harrist, Jr. (chair)  
Anne Higonnet (Barnard)  
Natalie Kampen (Barnard) (emerita)  
Rosalind Krauss  
Branden Joseph  
Keith Moxey (Barnard)  
Stephen Murray  
Esther Pasztory  
David Rosand  
Simon Schama  
Zoë Strother

## Associate Professors

Alexander Alberro (Barnard)  
Francesco Benelli  
Francesco de Angelis  
Cordula Grewe  
Kellie Jones  
Holger Klein  
Matthew McKelway  
Jonathan Reynolds (Barnard)

## Assistant Professors

Vittoria Di Palma  
Noam M. Elcott  
Elizabeth Hutchinson (Barnard)  
Ioannis Mylonopoulos

## Adjunct Faculty

Margaret Ainsworth (Barnard)  
Dawn Delbanco  
Rosalyn Deutsche (Barnard)  
John Rajchman

## Lecturers

Kaira Cabañas  
Chanchal Dadlani  
Sarah M. Guérin  
Prudence Marie Peiffer  
Stephanie Porras  
Jeffrey Saletnik  
Robert Schindler

## On Leave

Profs. Bahrani, Bergdoll, and McKelway for the academic year  
Profs. Alberro, Dehejia, and Higonnet for the fall semester  
Prof. Joseph for the spring semester.

The goal of the major in the Department of Art History and Archaeology is to explore the history of art, architecture, and archaeology across a broad historical, cultural, geographic, and methodological spectrum. Department courses take advantage of the extraordinary cultural resources of New York City and often involve museum assignments and trips to local monuments. The department offers a major and concentration in art history and in the history and theory of architecture, and a combined major in art history and visual arts.

At the heart of the major is the Major's colloquium, which introduces different methodological approaches to art history and critical texts that have shaped the discipline. The colloquium also prepares students for the independent research required in seminars and advanced lecture courses, and should be taken during the junior year. Surveys and advanced lecture courses offered by Barnard and Columbia cover the spectrum of art history from antiquity to the present and introduce students to a wide range of materials and methodologies. Limited-enrollment seminars have a narrower focus and offer intensive instruction in research and writing. The opportunity for advanced research with a senior thesis is available to students who qualify. The major readily accommodates students who wish to study abroad during junior year. Courses taken at accredited programs can generally count as transfer credits toward the major, but students must gain the approval of the director of undergraduate studies. Similarly, any transfer credit for the major must be approved by the director of undergraduate studies. Generally no more than 12 points of transfer credit is applicable to the major. The form to petition for transfer credit can be found

at [http://www.columbia.edu/cu/arhistory/pdf/transfer\\_course\\_form.pdf](http://www.columbia.edu/cu/arhistory/pdf/transfer_course_form.pdf). Courses taken at Reid Hall and through the Berlin Consortium are counted as regular Columbia courses, not transfer credits.

All newly declared majors and concentrators should make an appointment with the student coordinator. All majors are required to confer with their adviser at the start of junior and senior year to discuss their academic program. In order for courses to count for the major, students must have the approval of their adviser. The director of undergraduate studies regularly communicates with majors by e-mail to announce departmental events, museum internships, and other news. Students who do not receive these messages, should contact the department office.

## **Course Information**

### **LECTURES**

Attendance at the first class meeting is recommended.

### **COLLOQUIA**

For information about enrollment in colloquia, students should consult with the department during the registration period in the semester prior to the one in which the course is offered. See the department Web site at <http://www.columbia.edu/cu/arhistory/> for additional information.

### **SEMINARS**

Seminars require an application which is due in the department office in 826 Schermerhorn before the registration period in the semester prior to the one in which the course is offered. The required application form is available in both PDF and Word formats in the “Courses” section of the department Web site at <http://www.columbia.edu/cu/arhistory/> for additional information.

### **TRAVEL SEMINAR**

Each spring, one undergraduate seminar in the Department of Art History and Archaeology is designated a traveling seminar. The seminar receives funding to sponsor travel over the spring break to a distant site related to the subject matter of the seminar.

## **Study Abroad**

### **REID HALL, PARIS**

For information about the Columbia University in Paris Art History Program at Reid Hall, including summer session courses, consult the *Columbia University in Paris Bulletin* available in 203 Lewisohn; (212) 854-9666; [reidhall@columbia.edu](mailto:reidhall@columbia.edu). Information is also available on the Office of Global Programs Web site.

### **CASA MURARO, VENICE**

The Department of Art History and Archaeology offers two courses in the Columbia University Summer Program in Venice. For information about the program, consult the Office of Global Programs in 204 Lewisohn: 212-854-2559; [fjj1@columbia.edu](mailto:fjj1@columbia.edu). Information is also available on the Office of Global Programs Web site.

## **Departmental Honors**

In order to qualify for departmental honors, students must write a senior thesis and have a GPA of at least 3.7 in classes for the major. The faculty of the Department of Art History and Archaeology submits recommendations to the College Committee on Honors, Awards, and Prizes for confirmation. Normally no more than 10 percent of the graduating majors in the department each year receive departmental honors.

## Senior Thesis Prize

A prize is awarded each year to the best senior honors thesis written in the Department of Art History and Archaeology.

## DEGREE REQUIREMENTS

### Regulations for all Art History and Archaeology Majors, Concentrators, and Interdepartmental Majors

#### COURSES

*HUMA W1121 Masterpieces of Western art* (Art Humanities) does not count toward the majors or concentrations, and no credit is given for Advanced Placement tests.

#### GRADING

Courses in which a grade of D has been received do not count toward the major or concentration requirements.

## SENIOR THESIS

The senior thesis consists of a research paper of approximately 40 pages in length. It is a yearlong project, and students writing a thesis should register for *AHIS C3997-C3998*. All thesis writers are required to participate in occasional meetings of a thesis colloquium led by faculty. A new procedure has been established for the senior thesis. Students are required to submit an application and the selection process is similar to the one currently used for seminars. The student is asked to identify a topic for the senior thesis and an adviser among the faculty of the art history and archaeology department. Students must then submit an application, with an indication of the subject of the thesis and the name and the signature of the adviser, followed by a one-page statement (400 words) outlining the subject, the goals, and the methodology of the thesis. The deadline for the submission is set at the end of the second week of the senior year. The submissions are made in the department's office and are addressed to the director of undergraduate studies. The director of undergraduate studies, in consultation with the thesis adviser, evaluates the applications and decides on their approval or rejection. Students intending to write a thesis should begin formulating a research topic and approaching potential faculty sponsors during the spring of the junior year. Applications for writing a thesis can be found at [http://www.columbia.edu/cu/arhistory/html/dept\\_undergrad\\_theses.html](http://www.columbia.edu/cu/arhistory/html/dept_undergrad_theses.html).

## SENIOR THESIS RESEARCH FELLOWSHIPS

The department offers Senior Thesis Research Fellowships for travel to distant museums and building sites, libraries, or archives. This travel is normally undertaken during the summer before the senior year. Fellowship applications consisting of a carefully edited thesis proposal and supporting letter from a faculty sponsor should be submitted, in hardcopy, to the department by April 15, 2011. (Email applications are only accepted from students studying abroad.)

### For a Major in Art History

The yearlong senior thesis (for qualified students; see below) *AHIS C3997-C3998* may substitute for one lecture course. Seminars may substitute for lecture courses, and may count toward fulfilling the area distribution requirement. Barnard art history courses count toward the majors and concentrations.

The requirements for the major are as follows:

1. The major's colloquium: *AHIS W3895*
2. Seven 3-point lecture courses in art history. Students must take at least one course in four of five general areas:
  - ancient Mediterranean
  - medieval Europe
  - Renaissance and baroque

- 18th-20th century
  - non-Western
3. Two seminars in art history
  4. A studio course in the visual arts or architecture (which may be taken Pass/D/Fail)

### For a Major in History and Theory of Architecture

Majors can take advantage of one of the strengths of the department by focusing on architectural history. This track combines an introductory studio in architectural design with a slightly modified program in art history. Courses in the Department of Architecture may substitute for up to two courses in art history with approval of the adviser.

The requirements for the major are as follows:

1. The majors' colloquium: *AHIS W3895*
2. Seven lecture courses in art history, one of which must be *AHIS C3001 Introduction to architecture*, and three of which must focus on architectural history. Courses must cover four of five general areas:
  - ancient Mediterranean
  - medieval Europe
  - Renaissance and baroque
  - 18th-20th century
  - non-Western
3. Two seminars in art history or architectural history
4. Architectural studio: *ARCH V1020 Introduction to architectural design and visual culture*

### For a Major in Art History and Visual Arts

Students electing the combined major should consult with a faculty adviser in the department, as well as with the director of undergraduate studies in the Visual Arts Department.

Up to two of the seven 3-point courses in art history may be replaced by a specifically related course in another department with approval of the adviser. The combined major requires fulfillment of sixteen or seventeen courses.

It is recommended that students interested in this major begin work toward the requirements in their sophomore year. The requirements for the major are as follows:

1. The majors' colloquium: *AHIS W3895*
2. Seven lecture courses in art history. Students must take at least one course in four of five general areas:
  - ancient Mediterranean
  - medieval Europe
  - Renaissance and baroque
  - 18th-20th century
  - non-Western
3. 21 points in Visual Arts covering:
4. *VIAR R1001 Basic drawing* and *R1315 Sculpture fundamentals* (6 points)
5. One of the following (3 points):
  - *VIAR R3040 Printmaking I: lithography*
  - *R3041 Printmaking II: lithography*
  - *R3411 Printmaking I; relief*
  - *R3701 Photo I*
  - *R3201 Painting I*
6. Four additional courses chosen from the studio foundation courses in visual arts (12 points)
7. In the senior year, students undertake either a seminar in the Department of Art History and Archaeology or a senior project in visual arts (pending approval by the Visual Arts Department).

**For a Concentration in Art History**

Seven lecture courses in art history covering four of five areas as described for the major. Concentrators are not required to take the majors' colloquium, a seminar, or a studio course.

**For a Concentration in History and Theory of Architecture**

Seven courses in art history, including four in architectural history. Courses must cover four of five areas as described for the major. Concentrators are not required to take the majors' colloquium, a seminar, or a studio course.



## Asian and Middle Eastern Studies

**Acting Program Director:** Prof. Shang Wei, 418 Kent; 854-1526; [ws110@columbia.edu](mailto:ws110@columbia.edu)

**Program Office:** 500 Kent; 854-2569

### Special Service Professor

Wm. Theodore de Bary (John Mitchell  
Mason Professor and Provost Emeritus of  
the University)

### Professors

Paul Anderer (East Asian Languages and  
Cultures)  
Peter J. Awn (Religion)  
Richard Bulliet (History)  
Pierre Cachia (Senior Scholars Program)  
Myron Cohen (Anthropology)  
Hamid Dabashi (Middle Eastern, South Asian  
Languages, and Africa Cultures)  
Nicholas Dirks (Anthropology)  
Carol Gluck (History)  
Robert Harrist (Art History and Archaeology)  
John S. Hawley (Religion, Barnard)  
Robert Hymes (East Asian Languages and  
Cultures)  
Nanor Kendarian (Middle Eastern, South  
Asian Languages, and Africa Cultures)  
George A. Saliba (Middle Eastern, South  
Asian Languages, and Africa Cultures)  
Haruo Shirane (East Asian Languages and  
Cultures)  
Robert A. F. Thurman (Religion)  
Marc Van De Mieroop (Middle Eastern,  
South Asian Languages, and Africa  
Cultures)  
Gauri Viswanathan (English and  
Comparative Literature)  
Madeleine Zelin (East Asian Languages and  
Cultures)

### Associate Professors

Charles Armstrong (History)  
Aaron Fox (Music)  
Rachel Fell McDermott (Asian and Middle  
Eastern Cultures, Barnard)  
David L. Moerman (Asian and Middle  
Eastern Cultures, Barnard)  
Marilyn J. Ivy (Anthropology)  
John Pemberton (Anthropology)  
Gregory Pflugfelder (East Asian Languages  
and Cultures)  
Wei Shang (East Asian Languages and  
Cultures)  
Tomi Suzuki (East Asian Languages and  
Cultures)  
Guobin Yang

### Assistant Professors

Wiebke Denecke  
Eugenia Lean (East Asian Languages and  
Cultures)  
Feng Li (East Asian Languages and Cultures)  
David Lurie (East Asian Languages and  
Cultures)  
Joseph Massad (Middle Eastern, South Asian  
Languages, and Africa Cultures)  
Wendy Swartz (East Asian Languages and  
Cultures)

### Adjunct Faculty

Dawn Delbanco (Art History and  
Archaeology)  
Mary McGee (Religion)

### Senior Scholars

Pei-yi Wu

This is an inter-departmental, cross-disciplinary teaching program. Through a variety of region specific courses, as well as those which are explicitly broad-gauged or comparative in nature, students are offered diverse ways to expand their knowledge of the world, of cultures and societies in addition to those explicitly treated in Columbia's Core Curriculum. The program relies on the cooperation of several departments across the humanities and social sciences, drawing on Columbia's great strength in international studies.

# Astronomy

**Director of Undergraduate Studies:** Prof. Frederik Paerels, 1022 Pupin; 854-0181;  
frits@astro.columbia.edu

**Departmental Office:** 1328 Pupin; 854-3278

**URL:** <http://www.astro.columbia.edu/>

## Professors

James Applegate  
Arlin Crotts  
Jules P. Halpern  
David J. Helfand (chair)  
Laura Kay (Barnard)  
Frederik B. S. Paerels  
Joseph Patterson  
Edward A. Spiegel (emeritus)  
Jacqueline van Gorkom

## Associate Professors

Greg Bryan  
Zoltan Haiman  
Kathryn Johnston  
Mary E. Putman  
David Schiminovich

## Assistant Professors

Marcel Agueros  
Kristen Menou

## Adjunct Professors

Michael Shara (Hayden Planetarium)

## Adjunct Associate Professor

Mordecai-Mark MacLow (Hayden Planetarium)  
Benjamin Oppenheimer (Hayden Planetarium)  
Caleb Scharf

## On Leave

Prof. Haiman and Patterson for the fall semester  
Prof. Applegate for the spring semester

Astronomy is, at once, the oldest science and one of the most vibrant fields of modern research. Its goal is to construct testable, quantitative, coherent models of the universe (the UNItY of the diVERSE) and its contents—galaxies, stars, and planets. The department offers two majors, both of which require a solid grounding in the mathematics and physics necessary for the pursuit of the discipline.

The astrophysics major is designed as preparation for graduate study and consists of a significant fraction of a standard physics major sequence; a year-long introduction to astrophysics (typically taken in the sophomore year, but open to first-year students with an adequate preparation in calculus and physics); and three courses covering advanced topics in astronomy. Research, in the form of summer internships and/or term-time independent projects, which leads to a senior thesis, is strongly encouraged. Students wishing to pursue independent, supervised study or research are encouraged to enroll in *C3997 or C3998*. Astrophysics majors are encouraged to write a senior thesis based on an original piece of research. They are encouraged to enroll in a parallel, two-semester sequence *C3997-C3998*, in the fall and spring semesters of their senior year. In this sequence, you are required to attend the department colloquia in the fall semester, as well as a special seminar designed to help you understand the colloquium topic. Students also formulate a senior thesis project. In the spring semester, students do the research project and write the thesis.

The astronomy major, while also providing a basis for further study in the field, is designed as a science major for liberal arts students who may well pursue other careers and for students wishing to combine astronomy with related sciences other than physics, such as chemistry or geology. It requires only three physics courses beyond the introductory sequence and can be completed easily if begun in the sophomore year.

The Department offers two introductory sequences: *ASTR C1403 Earth, moon, and planets - C1404 Beyond the solar system* is recommended for students not majoring in the sciences; *ASTR C2001- C2002 Introduction to astrophysics I and II* is recommended for intending astronomy majors and concentrators and is required for astrophysics majors. Each semester, typically three 3000 level courses are taught. *ASTR C3601 General relativity, black holes, and cosmology*, *ASTR C3602 Physical cosmology*, and *ASTR C3646 Observational astronomy* are given in alternate years. Several other 3000 level courses on topics in astronomy and astrophysics are taught,

but not strictly repeating every other year. The 3000 level courses need not be taken in any particular order.

## DEGREE REQUIREMENTS

### Regulations for all Astronomy Majors, Concentrators, and Interdepartmental Majors

Courses in which the grade of D has been received do not count toward the major or concentration requirements.

#### For a Major in Astronomy

Students contemplating graduate study are advised to include at least two of these physics courses: *PHYS W3003 Mechanics*, *PHYS W3007 Electricity and magnetism*, and *PHYS G4021 Quantum mechanics, I* or *PHYS BC3006 Quantum physics*. One of these may be substituted for three points of astronomy.

The major should be planned with the director of undergraduate studies before the beginning of the junior year. The requirements for the major are as follows:

1. Calculus sequence through *MATH V1202 Calculus IV* or *MATH V1208 Honors mathematics IV*
2. One of the following:
  - *ASTR C1403 Earth, moon, and planets - C1404 Beyond the solar system* and 12 points in astronomy at the 2000 level or above
  - *ASTR C2001-C2002 Introduction to astrophysics, I and II* and 9 points in astronomy at the 3000 level or above
3. One of the following sequences:
  - *PHYS C1401 Introduction to mechanics and thermal dynamics*, *PHYS C1402 Introduction to electricity, magnetism, and optics*, *PHYS C1403 Introduction to classical and quantum waves*
  - *PHYS C1601 Physics I: mechanics and relativity*, *PHYS C1602 Physics II: thermodynamics, electricity, and magnetism*, *PHYS C2601 Physics III, classical and quantum waves*
  - *PHYS C2801-C2802 Accelerated physics, I and II*
4. Two physics courses at the 3000 level or above

#### For a Major in Astrophysics

Students who have majored in astrophysics are equally qualified to proceed to graduate work in physics or in astronomy.

A minimum of 50 points, to be planned with the director of undergraduate studies before the beginning of the junior year as follows:

1. Calculus sequence through *MATH V1202 Calculus IV* or *MATH V1208 Honors mathematics IV*
2. *ASTR C2001-C2002 Introduction to astrophysics, I and II*
3. Six points in astronomy at the 3000 level or above
4. One of the following sequences:
  - *PHYS C1401 Introduction to mechanics and thermal dynamics*, *PHYS C1402 Introduction to electricity, magnetism, and optics*, *PHYS C1403 Introduction to classical and quantum waves*
  - *PHYS C1601 Physics I: mechanics and relativity*, *PHYS C1602 Physics II: thermodynamics, electricity, and magnetism*, *PHYS C2601 Physics III, classical and quantum waves*
  - *PHYS C2801-C2802 Accelerated physics, I and II*
5. *PHYS W3003 Mechanics*
6. *PHYS W3007 Electricity and magnetism*
7. *PHYS W3008 Electromagnetic waves and optics*
8. *PHYS G4021 Quantum mechanics, I* or *BC3006 Quantum physics*
9. *PHYS G4022 Quantum mechanics II* or *PHYS G4023 Thermal and statistical physics*

**For a Concentration in Astronomy**

An extra three points of physics can substitute for three points of astronomy, as long as the course submitted is at the equivalent or higher level. The requirements for the concentration are as follows:

1. Nine points of mathematics
2. 15 points of astronomy, nine of which must be at or above the 2000 level
3. Nine points of physics

# Biological Sciences

## Director of Undergraduate Studies, Undergraduate Programs, and Laboratories:

Prof. Deborah Mowshowitz, 744D Mudd; 854-4497; dbm2@columbia.edu

## Biology Major and Concentration Advisers:

Current and prospective majors and concentrators whose last names begin with:

*A-H*: Prof. Daniel Kalderon, 1013 Fairchild; 854-6469; ddk1@columbia.edu

*I-P*: Prof. Alice Heicklen, 744B Mudd; 854-5952; ah2289@columbia.edu

*Q-Z*: Prof. Elizabeth Miller, 617 Fairchild; 854-2264; em2282@columbia.edu

## Biology Major and Concentration Advisers:

Current and prospective majors and concentrators whose last names begin with:

*A-L*: Prof. Deborah Mowshowitz, 744D Mudd; 854-4497; dbm2@columbia.edu

*M-Z*: Prof. Alexander Tzagoloff, 716 Fairchild; 854-2920; spud@cubpet.bio.columbia.edu

## Biochemistry Advisers:

*Biology*: Prof. Alexander Tzagoloff, 716 Fairchild; 854-2920;

spud@cubpet.bio.columbia.edu

*Chemistry*: Prof. Virginia Cornish, 1209 NWC Building; 854-5209; vc114@columbia.edu

## Biophysics Adviser: Prof. Julio Fernandez, 1011A Fairchild; jf2120@columbia.edu

## Neuroscience and Behavior Advisers:

*Biology*: Prof. Stuart Firestein, 920 Fairchild; 854-4531; sjf24@columbia.edu

## Neuroscience and Behavior Advisers:

*Biology*: Prof. Stuart Firestein, 920 Fairchild; 854-4531; sjf24@columbia.edu

or Prof. Deborah Mowshowitz, 744D Mudd; 854-4497; dbm2@columbia.edu

## Psychology:

Prof. Frances Champagne, 315 Schermerhorn Extension; 854-2589;

fac2105@columbia.edu

Prof. Hakwan Lau, 355D Schermerhorn Extension; 854-1925;

hakwan@psych.columbia.edu

## Departmental Office: 600 Fairchild, 854-4581; undergrad@biology.columbia.edu

## URL: *Department:*

<http://www.columbia.edu/cu/biology/>

*FAQs for first-year students:*

<http://www.columbia.edu/cu/biology/ug/advice/faqs/firstyr.html>

*FAQs for prospective majors:*

<http://www.columbia.edu/cu/biology/ug/advice/faqs/major.html>

*Checklist of major requirements:*

<http://www.columbia.edu/cu/biology/pages/undergrad/cur/majors/>

*Additional course information:*

<http://www.columbia.edu/cu/biology/pages/crs/main/all/>

## Professors

Walter J. Bock

J. Chloë Bulinski

Martin Chalfie

Lawrence A. Chasin

Julio M. Fernandez

Stuart Firestein

Joachim Frank

Daniel Kalderon

Darcy B. Kelley

Ann McDermott (Chemistry)

James L. Manley

Robert E. Pollack

Carol L. Prives

Ron Prywes

Michael P. Sheetz

Liang Tong

Alexander A. Tzagoloff

Rafael Yuste

## Associate Professors

Harmen Bussemaker

John Hunt

## Associate Professors (continued)

Brent Stockwell

Jian Yang

## Assistant Professors

Lars Dietrich

Songtao Jia

Elizabeth Miller

Dana Pe'er

## Lecturers

Claire Elise Hazen

Alice Heicklen

Carol Lin

## Adjunct Faculty

Ava Brent-Jamali

Nataliya Galifianakis

John Loike

Deborah B. Mowshowitz

Solomon Mowshowitz

David Newman

Vincent R. Racaniello

The department offers broad training in basic biological disciplines, with an emphasis in cell and molecular biology. Students have many opportunities to participate in ongoing projects in research laboratories. All the biology-related majors require one year of introductory biology, plus additional courses as detailed in the major requirements and listed on the Web sites given above.

For the first term of their introductory biology sequence, students may take either *BIOL C2005*, which has a prerequisite of chemistry, or *EEEE W2001*, which does not require chemistry. *EEEE W2001* may be taken in the first year. *BIOL C2005* should be taken later, after general chemistry. All students interested in biology are encouraged to take *BIOL C2908 First year seminar in modern biology* in the fall semester in their first year.

Premedical students should consult their advising dean or the pre-professional office for relevant details of medical school requirements.

Nonscience majors who wish to take a biology course to fulfill the science requirement are encouraged to take *BIOL W1015* and/or *BIOL W1130*. They may also take, with the instructor's permission, *BIOL W3208*, or *EEEE W2001*.

Interested students should consult listings in other departments for courses related to biology. For courses in environmental studies see listings for earth and environmental sciences, or listings for ecology, evolution, and environmental biology. For courses in human evolution see listings for Anthropology or ecology, evolution, and environmental biology. For courses in the history of evolution, see history and philosophy of science. For a list of courses in computational biology and genomics, see <http://www.c2b2.columbia.edu/course.php>

### Advanced Placement

The department grants 3 credits for a score of 5 on the AP Biology exam. Placement is determined by the department. Students with a 5 on the AP are encouraged to take *BIOL C2005* and *BIOL C2006* but are not required to do so. For details see <http://www.columbia.edu/cu/biology/ug/faqs.html>

### Advising

Current and prospective majors and concentrators whose last names begin with A-H should consult Prof. Kalderon. Students whose last names begin with I-P should consult with Prof. Pollack. Students whose last names begin with Q-Z should consult with Prof. Miller. Students who cannot contact their adviser should consult Prof. Mowshowitz. For additional information, including office hours, please see <http://www.columbia.edu/cu/biology/pages/undergrad/cur/advising/>.

### Summer Undergraduate Research Fellowship (SURF) Program

First-year students, sophomores, and juniors are eligible for the department's paid internship program (SURF). This program is competitive; the department cannot assure every eligible student a place in any given summer.

Students apply to the program early in the spring term. A faculty committee headed by Dr. Alice Heicklen then matches selected students to appropriate labs. The deadline for SURF applications is at the beginning of the spring semester.

SURF students must submit a report on their work at the end of the summer session and participate in the following year's annual Undergraduate Research Symposium. Although it does not carry any academic credit, SURF can be used toward the lab requirement for majors and toward graduation with honors.

For detailed information on all summer research programs & how to apply visit the SURF website.

Current detailed descriptions of the SURF program and the application procedure are available at SURF: <http://www.columbia.edu/cu/biology/ug/surf/>, and Amgen Scholarship Program: <http://www.columbia.edu/cu/biology/ug/amgen/> and NYSTEM summer undergraduate research program: <http://www.columbia.edu/cu/biology/ug/nystem/>. Applications to all of these programs are through SURF.

## Departmental Honors

Students must apply for departmental honors. Applications are due no later than one day after spring break of their senior year. For details, see the department website at <http://www.columbia.edu/cu/biology/pages/undergrad/cur/honors/>.

## DEGREE REQUIREMENTS

### Regulations for all Biological Sciences Majors, Concentrators, and Interdepartmental Majors

Returning students should check the department Web site for any last-minute changes and/or additional information. See especially UG updates and list of dept courses. All major and concentration requirements are spelled out in detail on the Web site at the URLs given below.

## EXCEPTIONS TO REQUIREMENTS

Students must get written permission in advance for any exceptions to the requirements listed below. For the exceptions to be applied toward graduation, the student must notify the biology department in one of the following two ways -

- (1) the student can file a completed paper planning form, signed by a faculty adviser, in the biology department office at 600 Fairchild, or
- (2) the faculty member approving the exception can send an email explaining the exceptions to [undergrad@biology.columbia.edu](mailto:undergrad@biology.columbia.edu).

## GRADE REQUIREMENTS FOR THE MAJOR

A grade of C- or higher must be earned and revealed on your transcript for any course — including the first — to be counted toward the major or concentration requirements. The grade of P is not acceptable, but a course that was taken P/D/F may be counted if and only if the P is uncovered by the Registrar's deadline.

## COURSES

Courses with the subject area *HPSC* or *SCNC* do not count toward the majors or concentrations.

### For a Major in Biology

<http://www.columbia.edu/cu/biology/pages/undergrad/cur/majors/biomajor.html>

## GENERAL INFORMATION

The requirements for the biology major include courses in biology, chemistry, physics and mathematics.

The required biology courses are one year of introductory biology, two core courses in biology or biochemistry, two 3 pt. electives in biology or biochemistry, and an appropriate lab experience. ( See below for details)

The required courses outside the biology department are chemistry through organic (plus labs), one year of college-level physics (plus lab), and the completion of one year of college-level mathematics (usually calculus).

No more than two terms of *BIOL W3500*, or one term of *BIOL W3500* and one summer of *SURF*, are counted toward the major.

Alternative sequences to the above may be arranged in special circumstances, but only with the permission of the director of undergraduate studies or a departmental adviser obtained in advance; for example, certain courses listed in the *Summer Term Bulletin*, the *School of General Studies Bulletin*, and the *Barnard College Bulletin* may be applied toward the major. In addition, selected courses at the Columbia-Presbyterian Medical Center are open to advanced undergraduates. Credit toward the major for courses not listed in the *Columbia College Bulletin* must be discussed in advance with the director of undergraduate studies or a departmental adviser. Students are responsible for notifying the department of all exceptions either in writing or by email as explained above.

Alternative programs must be arranged in advance with the director of undergraduate studies. Students planning graduate work in biology should keep in mind that physical chemistry and statistics are important for many graduate programs.

The department offers special summer research opportunities. For details see dept. info or see SURF page.

## INTRODUCTORY COURSES

The usual one-year introductory biology sequence is *BIOL C2005-C2006*, taken in the sophomore year, or *EEEB W2001-BIOL C2006*, which may be taken in the first year. Other sequences require permission in advance from the director of undergraduate studies or departmental advisers. Students with a strong background in chemistry or molecular biology may take *BIOL C2005-C2006* in their first year; the permission of one of the instructors is required.

Premedical students usually take *BIOL C2005-C2006* after a year of general chemistry; premedical students interested in the environmental sciences may take *EEEB W2001* followed by *BIOL C2006*. Students with advanced placement in biology are expected to take *EEEB W2001* or *BIOL C2005* as their initial biology course, because *BIOL C2005-C2006* is taught at a level of detail and depth not found in most advanced placement courses. Students who wish to skip *BIOL C2005* and start with a higher-level biology course may do so, but they must obtain permission in advance from the director of undergraduate studies. For additional information see FAQs for first-year students at: <http://www.columbia.edu/cu/biology/ug/advice/faqs/firstyr.html>.

## CORE COURSES

Two out of the following five departmental core courses are required:

1. Genetics - *BIOL W3031*
2. Cell biology - *BIOL W3041*
3. Development - *BIOL W3022*
4. Biochemistry - *BIOC C3501*
5. Molecular biology - *BIOC C3512*

## LABORATORY COURSES

A laboratory experience in biology which may be fulfilled by completing any one of the following:

1. A 5-point project laboratory; *BIOL W3050* or *BIOL C3052*
2. *BIOL W2501* and *BIOL W3002* with lab or *BIOL W3040* (or another course including at least 3 points of lab)
3. Two terms of *BIOL W3500* taken for a letter grade, including the submission of a satisfactory research report at the end of each semester;
4. Completion of all the requirements for one semester of the Summer Undergraduate Research Fellowship (SURF) and one semester of *BIOL W3500* in the same research lab. Summer lab work under other auspices may not be substituted for the SURF Program.

The laboratory fee (\$150) partially covers the cost of nonreturnable items. This fee is charged for all lab courses, including *BIOL W3500*.

## UPPER-LEVEL ELECTIVE COURSES

Two additional courses, carrying at least 3 points each, from any of the 3000- or 4000- level lecture courses. *BIOL W3500* cannot be used as one of the courses to satisfy the upper-level elective course requirement.

## CHEMISTRY

All majors must take chemistry through organic including labs. One of the following three groups of chemistry courses is required:



1. Option 1: General chemistry and lab *CHEM C1403-C1404*, *CHEM C1500*, and Organic chemistry plus lab *CHEM C3443-C3444*, *CHEM C3543*
2. Option 2: For students who qualify for intensive chemistry second semester general chemistry (intensive) plus intensive lab - *CHEM C1604-CHEM C2507*, and Organic chemistry plus lab *CHEM C3443-C3444*, *CHEM C3543*
3. Option 3: For students who qualify for first year organic chemistry Intensive general chemistry Lab - *CHEM C2507* and Organic chemistry for first years plus lab - *CHEM C3045-C3046*, *C3543*

## PHYSICS

Students must take two terms of physics including the accompanying labs. The usual choices are *PHYS V1201-V1202 General physics* and *PHYS V1291-V1292 General physics lab*. Higher-level physics sequences are also acceptable. The 1400-level sequence is recommended for students who plan to take three terms of physics.

## MATHEMATICS

Two semesters of calculus or honors mathematics are required. Students may substitute one semester of statistics for one semester of calculus with an adviser's permission. For students with AP credit, completion of *MATH V1102 Calculus II*, *MATH V1201 Calculus III*, or *MATH V1207 Honors math A* is sufficient. However, students with AP credit are encouraged to take additional courses in mathematics or statistics at Columbia.

### For a Major in Biochemistry

<http://www.columbia.edu/cu/biology/pages/undergrad/cur/majors/biochem.html>

Required basic courses: chemistry through organic, including laboratory, and one year each of physical chemistry, physics, calculus, biology, and biochemistry/molecular biology.

Required additional courses: Three lecture courses chosen from mathematics, chemistry, and biology; and two upper-level laboratory courses.

Please see the website above or the Chemistry section in this bulletin for details.

### For a Major in Biophysics

<http://www.columbia.edu/cu/biology/pages/undergrad/cur/majors/biophysics.html>

For additional information see the website listed above. The requirements for the major are as follows:

1. One year introductory biology: *BIOL C2005* and *BIOL C2006*
2. At least one 5-point laboratory course; *BIOL W3050* or *BIOL C3052*
3. *BIOC C3501 Biochemistry* or *BIOL C3512 Molecular biology*
4. Genetics (*BIOL C3032* or *BIOL W3031*) or one term of neurobiology (*BIOL W3004* or *BIOL W3005*) or developmental biology (*BIOL W3022*)
5. One of the following sequences (to be completed by the end of the sophomore year):
  - *PHYS C1401*, *PHYS C1402*, *PHYS C1403*, *PHYS C1494*
  - *PHYS C1601*, *PHYS C1602*, *PHYS C2601*, *PHYS C2699*
  - *PHYS C2801-C2802*, *PHYS W3081*
6. Any two physics courses at 3000 level or above, chosen in consultation with the adviser
7. Calculus through *MATH V1202* or *MATH V1208*, and *MATH V3027*
8. Chemistry through organic including labs; see biology major for options
9. One additional course at the 3000 or 4000 level in either physics or biology

### For a Major in Neuroscience and Behavior

<http://www.columbia.edu/cu/biology/pages/undergrad/cur/majors/neuro.html>

Required courses: In addition to one year of general chemistry, ten courses are required to complete the major - five in biology and five in psychology.

Please see the Web site above or the Psychology section in this bulletin for details.

## For a Major in Environmental Biology

For a description of the environmental biology major, see Ecology, Evolution, and Environmental Biology in this bulletin.

## For a Concentration in Biology

<http://www.columbia.edu/cu/biology/pages/undergrad/cur/majors/biocon.html>

Students who wish to concentrate in biology must design their programs in advance with the director of undergraduate studies or a departmental adviser. Requirements for the concentration are 22 points in biology or biochemistry, with at least five courses chosen from the *C*, *W*, and *G* courses listed in the Biological Sciences section of the on-line bulletin. Additional courses in physics, chem and math are required as detailed below.

*BIOL W1015*, *BIOL W1130* or *BIOL W3500* **cannot** be used to fulfill the 22-point concentration requirement, and only one 5-point laboratory can be counted toward the 22 points. A project laboratory and *BIOL W2501* may **not** both be counted toward the 22-point total. See the biology major requirements for additional information.

The requirements for the concentration are as follows:

1. *BIOL C2005* or *EEEB W2001*
2. *BIOL C2006*
3. At least one of the following core courses:
  - Genetics - *BIOL W3031*
  - Cell biology - *BIOL W3041*
  - Development - *BIOL W3022*
  - Biochemistry - *BIOC C3501*
  - Molecular biology - *BIOC C3512*
4. A 5-point laboratory course (*BIOL W3050*, *BIOL C3052*) or *BIOL W2501* plus a second course including laboratory work (usually *BIOL W3002* or *BIOL W3040*)
5. Additional biology or biochemistry courses to complete a total of 22 points.
6. Chemistry through organic including labs; see biology major for options
7. One year of physics, including laboratory; see biology majors for options
8. One year of college-level mathematics (ordinarily this should be calculus); see biology major for options

# Business

**Program Manager:** Claudia Fong, 404 Warren; 851-1813; [clf2116@columbia.edu](mailto:clf2116@columbia.edu)

## Affiliated Faculty

Dana Carney  
Martin Cherkas  
Leonard Lee  
Stephan Meier

Oded Netzer  
Enrichetta Ravina  
Andrew Schmidt

The collaboration between the faculty of Arts and Sciences and Columbia Business School offers students access to the ideas and expertise of the faculty of a top-ranked professional school recognized for its excellence in graduate business education through a series of elective courses.

These courses, designed by Business School faculty specifically for undergraduates, build upon the strong liberal arts foundation of a Columbia undergraduate education. Students learn how finance is directly connected to the fundamental principles of economics; that marketing utilizes concepts from psychology; how management depends upon principles developed in psychology and sociology. Students can take advantage of the opportunity to enhance their experience in the classroom by participating in co-curricular activities including a Business School faculty lecture series, industry panels, informal mentoring/networking activities with MBA students and alumni, and opportunities to work on research with Business School faculty.

This curricular and co-curricular programming capitalizes on the Business School's ability to connect academic theory with real-world practice, which provides students the opportunity to develop indispensable skills like leadership, an entrepreneurial mindset, and the ability to innovate.

## DEGREE REQUIREMENTS

### For a Special Concentration in Business Management

The business management special concentration is not a stand-alone concentration: it is intended to serve as a complement to the disciplinary specialization and methodological training inherent in a major. In addition to the requirements of the special concentration, students must complete a major or a full concentration.

Students wishing to complete a special concentration in business management must earn a B+ or better in at least two of the prerequisites (and at least a D in the third prerequisite). Students must also earn a minimum average GPA of 3.0 in the core and elective courses. Students who do not meet course prerequisites or who do not receive a passing grade do not receive credit for that class towards the special concentration. All courses toward the special concentration must be taken for a letter grade. Only the prerequisites may be double-counted for other majors or concentrations. The core and elective courses CANNOT be double counted (i.e. they must be counted separately from the major or concentration requirements).

### BENEFITS FOR SELECTED STUDENTS:

- Guaranteed seat in popular undergraduate business courses - *BUSI W3013*, *W3021*, *W3701*, *W3703*, and *ECÓN W4280* (must reserve in advance through program manager)
- Access to special guest speaker presentations at the Business School, including one or more business leader or faculty presentations exclusively for selected students
- Formal and informal networking opportunities with Business School students, faculty, and/or alumni

To apply for the special concentration in business management, students must meet these three requirements:

1. be a sophomore or junior
2. have a cumulative GPA of 3.4 or higher
3. received a B+ or better in at least two out of the three pre-requisite courses:
  - 1 - *STAT W1001, STAT W1111, STAT W1211, PSYC W1610, or SOCI W3020*
  - 2 - *ECON W1105*
  - 3 - *PSYC W1001, PSYC W1010, or SOCI W1000*

#### **Application Components:**

- application form
- current class schedule - including a brief description of how all concentration requirements will be completed
- official transcript
- resume

For more information about the special concentration in business management including the application process, please visit [www.gsb.columbia.edu/undergraduate](http://www.gsb.columbia.edu/undergraduate)

1. Prerequisites (3 courses)
  - One of the following:
    - STAT W1001 Introduction to statistical reasoning*
    - STAT W1111 Introduction to statistics (without calculus)*
    - STAT W1211 Introduction to statistics (with calculus)*
    - PSYC W1610 Introduction to statistics for behavioral scientists*
    - SOCI W3020 Social statistics*
  - *ECON W1105 Principles of economics*
  - One of the following:
    - PSYC W1001 The science of psychology*
    - PSYC W1010 Mind, brain, and behavior*
    - SOCI W1000 The social world*
2. Core (3 courses)
  - One of the following Financial Core courses:
    - BUSI W3013 Financial accounting*
    - ECON W4280 Corporate finance*
  - Two of the following Managerial Core courses:
    - BUSI W3021 Marketing management*
    - BUSI W3701 Strategy formulation*
    - BUSI W3703 Leadership in organizations*
3. Electives (2 courses chosen from the following):
  - *ECON V3025 Financial economics*
  - *ECON V3265 Economics of money and banking*
  - *ECON BC3014 Entrepreneurship*
  - *PSYC W2235 Thinking and decision making*
  - *PSYC W2630 Social psychology*
  - *PSYC W2640 Introduction to social cognition*
  - *PSYC W2650 Introduction to cultural psychology*
  - *SOCI W2240 Economy and society*
  - *SOCI W3490 Mistake, misconduct, disaster: how organizations fail*
  - *SOCI W3675 Organizing innovation*

Students may receive the special concentration if they meet all requirements, even without formal admission to the program.

# Chemistry

**Director of Undergraduate Studies:** Prof. James J. Valentini, 528 Havemeyer; 854-7590; [jjv1@columbia.edu](mailto:jjv1@columbia.edu)

**Biochemistry Advisers:**

Biology: Prof. Alexander Tzagoloff, 716 Fairchild; 854-2919; [spud@cubpet.bio.columbia.edu](mailto:spud@cubpet.bio.columbia.edu)

Chemistry: Prof. Virginia Cornish, 414 Havemeyer; 854-5209; [vc114@columbia.edu](mailto:vc114@columbia.edu)

**Undergraduate Office:** 340 Havemeyer; 854-2163

**Departmental Office:** 344 Havemeyer; 854-2202

**URL:** <http://www.columbia.edu/cu/chemistry/>

**Professors**

Bruce J. Berne  
 Ronald Breslow  
 Louis E. Brus  
 Virginia W. Cornish  
 Samuel J. Danishefsky  
 Kenneth B. Eisenthal  
 George W. Flynn  
 Richard A. Friesner  
 James L. Leighton  
 Ann E. McDermott  
 Jack R. Norton  
 Colin Nuckolls  
 Gerard Parkin  
 David R. Reichman  
 Brent Stockwell  
 Nicholas J. Turro  
 James J. Valentini

**Associate Professors**

Dalibor Sames

**Assistant Professors**

Angelo Cacciuto  
 Luis Campos  
 Ruben Gonzalez  
 Laura Kaufman  
 Tristan Lambert  
 Wei Min  
 Jonathan Owen  
 Scott Snyder

**Lecturers**

Luis Avila  
 Robert Beer  
 John Decatur  
 Charles E. Doubleday  
 Fay Ng  
 Ruben Savizky

Chemistry, the study of molecules, is a central science interesting for its own sake but also necessary as an intellectual link to the other sciences of biology, physics, and environmental science. Faculty find the various disciplines of chemistry fascinating because they establish intellectual bridges between the macroscopic or human-scale world that we see and smell and touch and the microscopic world that we can never see directly but that affects every aspect of our lives. The study of chemistry begins on the microscopic scale and extends to engage a variety of different macroscopic contexts.

Chemistry is currently making its largest impact on society at the nexus between chemistry and biology and the nexus between chemistry and engineering, particularly where new materials are being developed. A typical chemistry laboratory now has more computers than test tubes and no longer smells of rotten eggs. The major is designed to help students focus on these new developments and to understand the factors influencing the nature of the discipline. Because the science is constantly changing, courses change as well, and while organic and physical chemistry remain the bedrock courses, they too differ greatly from the same courses 40 years ago. Many consider biochemistry to be a foundation course as well. Although different paths within the chemistry major take different trajectories, there is a core that provides the essential foundation students need regardless of the path they choose. Students should consider majoring in chemistry if they share or can develop a fascination with the explanatory power that comes with an advanced understanding of the nature and influence of the microscopic world of molecules.

Students who choose to major in chemistry may elect to continue graduate study in this field and obtain a Ph.D., which is a solid basis for a career in research either in the industry or in a university. However a major in chemistry also provides students with an astonishing range of career choices such as working in the chemical or pharmaceutical industries or in many other businesses where a technical background is highly desirable. Other options include becoming a financial analyst for a technical

company, a science writer, a high school chemistry teacher, a patent attorney, an environmental consultant, or a hospital laboratory manager, among others. The choices are both numerous and various as well as intellectually exciting and personally fulfilling.

### Advanced Placement

The department grants advanced placement (AP) credit for a score of 4 or 5. The amount of credit granted is based on the results of the department placement exam and completion of the requisite course. Students who are placed into *CHEM C1604* are granted 3 points of credit; students who are placed into *CHEM C3045-C3046* are granted 6 points of credit. In either case credit is granted only upon completion of the course with a grade of C or better. Students must complete a department placement exam prior to registering for either of these courses.

### Programs of Study

The Department of Chemistry offers four distinct academic major programs for undergraduates interested in professional-level training and education in the chemical sciences: chemistry, chemical physics, biochemistry and environmental chemistry. For students interested in a program of less extensive study and coursework the department offers a concentration in chemistry.

### Course Information

All students must take a placement exam. The results of the placement exam are used to advise students which track to pursue. The Department of Chemistry offers three different tracks.

### TRACK INFORMATION

In the first year, Track 1 students with one year of high school chemistry take a one-year course in general chemistry, and the one-term laboratory course that accompanies it. In the second year, students study organic chemistry, and take organic chemistry laboratory.

Students who qualify by prior examination during orientation week can place into the advanced tracks. There are two options. Track 2 students take, in the fall term, a special one-term intensive course in general chemistry in place of the one-year course. In the second year students, study organic chemistry, and take organic chemistry laboratory.

Track 3 students take a one-year course in organic chemistry for first-year students and the one-term general chemistry laboratory course. In the second year, students enroll in physical chemistry and the organic chemistry laboratory course. Additional information on the tracks can be found in the degree requirements section.

### ADDITIONAL COURSES

First-year students may also elect to take *CHEM C2408*. This seminar focuses on topics in modern chemistry, and is offered to all qualified students.

Biochemistry (*BIOC C3501, C3512*) is recommended for students interested in the biomedical sciences.

Physical chemistry (*CHEM C3079 - C3080*), a one-year program, requires prior preparation in mathematics and physics. The accompanying laboratory is *C3085 - C3086*.

Also offered are a senior seminar (*C3920*); advanced courses in biochemistry, inorganic, organic, and physical chemistry; and an introduction to research (*C3098*).

### SAMPLE PROGRAMS

Some *typical* programs are shown below. Programs are crafted by the student and the director of undergraduate studies to meet individual needs and interests.

1. First Year
  - *Track 1: CHEM C1403-C1404, CHEM C1500 and CHEM C2408*
  - *Track 2: CHEM C1604, CHEM C2507, CHEM C2408, and in some cases CHEM C3071*
  - *Track 3: CHEM C3045-C3046, CHEM C2507, and CHEM C2408*
  - Calculus and physics for all tracks as required.
2. Second Year
  - *Tracks 1 and 2: CHEM C3443-C3444, CHEM C3543 and C3546*
  - *Track 3: CHEM C3079-C3080, CHEM C3545 and C3546*
  - Calculus and physics for all tracks as required.
3. Third Year
  - *Tracks 1 and 2: CHEM C3079-C3080, CHEM C3071, CHEM C3098 ; BIOC C3501 - C3512 for biochemistry majors*
  - *Track 3: CHEM C3085-C3086, CHEM C3098, CHEM C3071; BIOC C3501-C3512 for biochemistry majors*
4. Fourth Year
  - *Tracks 1 and 2: CHEM C3085-C3086, CHEM C309, advanced courses (4000 level); CHEM C3920*
  - *Track 3: CHEM C3098, advanced courses (4000 level); CHEM C3920*

## DEGREE REQUIREMENTS

### Regulations for all Chemistry Majors, Concentrators, and Interdepartmental Majors

Students majoring in chemistry or in one of the interdepartmental majors in chemistry should go to the director of undergraduate studies in the Department of Chemistry to discuss their program of study. Chemistry majors and interdepartmental majors usually postpone part of the Core Curriculum beyond the sophomore year.

## CHEMISTRY TRACKS

All students must take a placement exam. The results of the placement exam are used to advise students which track to pursue. Unless otherwise specified below all students must complete one of the following tracks.

1. **Track 1**
  - *CHEM C1403-C1404 General chemistry*
  - *CHEM C1500 General chemistry laboratory*
  - *CHEM C3443-C3444 Organic chemistry*
  - *CHEM C3543 Organic chemistry laboratory*
2. **Track 2**
  - *CHEM C1604 Second term general chemistry intensive*
  - *CHEM C2507 Intensive general chemistry laboratory*
  - *CHEM C3443-C3444 Organic chemistry*
  - *CHEM C3543 Organic chemistry laboratory*
3. **Track 3**
  - *CHEM C3045-C3046 Intensive organic chemistry for first-year students*
  - *CHEM C2507 Intensive general chemistry laboratory*
  - *CHEM C3545 Organic chemistry laboratory*

## PHYSICS SEQUENCES

Unless otherwise specified below all students must complete one of the following sequences:

1. **Sequence A:** for students with limited background in high school physics
  - *PHYS C1401 Introduction to mechanics and thermodynamics*
  - *PHYS C1402 Introduction to electricity, magnetism, and optics*
  - *PHYS C1403 Introduction to classical and quantum waves*
  - One of the following laboratory courses:
    - PHYS C1493 or C1494 Introduction to experimental physics*
    - PHYS C2699 Experiments in classical and modern physics*
    - PHYS W3081 Intermediate lab work*
2. **Sequence B**
  - *PHYS C1601 Mechanics and relativity*
  - *PHYS C1602 Thermodynamics, electricity, and magnetism*
  - *PHYS C2601 Classical and quantum waves*
  - One of the following laboratory courses:
    - PHYS C2699 Experiments in classical and modern physics*
    - PHYS W3081 Intermediate lab work*
3. **Sequence C:** for students with advanced preparation in physics and mathematics
  - *PHYS C2801-C2802 Accelerated physics*
  - One of the following laboratory courses:
    - PHYS C2699 Experiments in classical and modern physics*
    - PHYS W3081 Intermediate laboratory work*

### For a Major in Chemistry

Please read *Regulations for all Chemistry Majors, Concentrators, and Interdepartmental Majors* above.

1. Chemistry courses
  - One of the chemistry tracks outlined above.
  - *CHEM C2408 First-year seminar (recommended by not required)*
  - *CHEM C3546 Advanced organic chemistry laboratory*
  - *CHEM C3071 Introduction to inorganic chemistry*
  - *CHEM C3079-C3080 Physical chemistry*
  - *CHEM C3085-C3086 Physical and analytical chemistry laboratory*
  - *CHEM C3920 Senior seminar in chemical research*
  - One course selected from *CHEM C3098 Supervised independent research (one term taken for at least 4 pts)* and chemistry courses numbered *CHEM G4000* and above
2. Physics courses
  - One of the physics sequences outlined above.
3. Mathematics courses
  - One of the following sequences:
    - Four semesters of calculus (*MATH V1101, MATH V1102, MATH V1201, MATH V1202*)
    - Two semesters of honors mathematics (*MATH V1207, MATH V1208*)

### For a Major in Chemical Physics

Please read *Regulations for all Chemistry Majors, Concentrators, and Interdepartmental Majors* above.



1. Chemistry courses
  - One of the chemistry tracks outlined above.
  - *CHEM C2408 First-year seminar (recommended by not required)*
  - *CHEM C3079-C3080 Physical chemistry*
  - *CHEM C3085-C3086 Physical and analytical chemistry laboratory*
  - *CHEM G4221 Quantum chemistry I or PHYS G4021 Quantum mechanics I*
  - *CHEM C3920 Senior seminar in chemical research*
2. Physics courses
  - One of the physics sequences outlined above.
  - *PHYS W3003 Mechanics*
  - *PHYS W3007 Electricity and magnetism*
  - *PHYS W3008 Electromagnetic waves and optics*
3. Mathematics courses
  - One of the following sequences:
    - Four semesters of calculus (*MATH V1101, MATH V1102, MATH V1201, MATH V1202*)
    - Two semesters of honors mathematics (*MATH V1207, MATH V1208, MATH V3027*)
    - Two semesters of advanced calculus (*MATH V1202, MATH V3027*)

### For a Major in Biochemistry

Please read *Regulations for all Chemistry Majors, Concentrators, and Interdepartmental Majors* above.

1. Chemistry courses
  - One of the chemistry tracks outlined above.
  - *CHEM C3079-C3080 Physical chemistry*
  - *CHEM C2408 First-year seminar (recommended by not required)*
2. Biology courses
  - *BIOL C2005 Introduction to molecular and cellular biology, I*
  - *BIOL C2006 Introduction to molecular and cellular biology, II*
  - One of the following laboratory courses:
    - BIOL W3050 Project laboratory in protein biochemistry*
    - BIOL C3052 Project laboratory in molecular genetics*
    - BIOL W3500 Independent research*
  - *BIOL C2908 First-year seminar (recommended but not required)*
  - *BIOC C3501 Biochemistry: structure and metabolism*
  - *BIOC C3512 Molecular biology*
3. Physics courses
  - One of the following physics sequences:
    - Sequence A: PHYS V1201-V1202*
    - Sequence B: PHYS C1401, PHYS C1402, and PHYS C1403 (C1403 is recommended but not required)*
    - Sequence C: PHYS C1601, PHYS C1602, and PHYS C2601 (C2601 is recommended but not required)*
    - Sequence D: PHYS C2801-C2802*
4. Mathematics courses
  - One of the following mathematics sequences:
    - Two semesters of calculus (*MATH V1101, MATH V1102, MATH V1201, or MATH V1202*)
    - Two semesters of honors math (*MATH V1207, MATH V1208*)
    - AP credit and one term of calculus (*Calculus II* or higher)
5. Additional courses
  - One of the following additional laboratory courses:
    - CHEM C3085 Physical and analytical chemistry laboratory, I*
    - CHEM C3086 Physical and analytical chemistry laboratory, II*
    - CHEM C3546 Advanced organic chemistry laboratory*
    - CHEM C3098 Supervised independent research (one term taken for at least 4 pts)*
    - BIOL W3500 Independent research (one term taken for at least 4 pts)*
    - BIOL W3050 Project laboratory in protein biochemistry*

- BIOL C3052 Project laboratory in molecular genetics
- BIOL W3040 Project laboratory in cell and developmental biology together with W2501 Contemporary Biology Laboratory
- Any three courses selected from the following:
  - CHEM C3071 Introduction to inorganic chemistry
  - CHEM G4147 Advanced organic chemistry
  - CHEM G4172 Bio-organic topics
  - CHBC W4510 Molecular systems biology, I
  - CHBC W4511 Molecular systems biology, II
  - Any biology course at the 3000/4000 level for 3 or more points—the following are recommended:
    - BIOL W3004 or W3005 Neurobiology
    - BIOL W3008 Cellular physiology of disease
    - BIOL C3032 or W3031 Genetics
    - BIOL W3034 Biotechnology
    - BIOL W3041 Cell biology
    - BIOL W3022 Developmental biology
    - BIOL W3073 Immunology
    - BIOL W4065 Molecular biology of disease
    - BIOL W4300 Drugs and disease
    - CHBC W4510 Molecular systems biology, I
    - CHBC W4511 Molecular systems biology, II
- One additional semester of calculus
- One additional semester of honors math (*MATH V1207*, *MATH V1208*)
- MATH V3027 Ordinary differential equations*

### For a Major in Environmental Chemistry

Please read *Regulations for all Chemistry Majors, Concentrators, and Interdepartmental Majors* above. The environmental chemistry major meets guidelines set forth by the Committee on Professional Training (CPT) of the American Chemical Society.

1. Chemistry courses
  - One of the chemistry tracks outlined above.
  - *CHEM C2408 First-year seminar* (recommended by not required)
  - *CHEM C3071 Introduction to inorganic chemistry*
  - *CHEM C3079 Physical chemistry*
  - One of the following laboratory courses:
    - CHEM C3098 Supervised Independent Research (one term taken for at least 4 pts)*
    - CHEM C3085 Physical and analytical chemistry laboratory*
    - *CHEM C3920 Senior seminar in chemical research*
2. Earth and environmental science courses
  - *EESC V2100 Earth's environmental systems: climate change*
  - *EESC V2200 Earth's environmental systems: solid Earth system*
  - *EESC V2300 Earth's environmental systems: the life system*
  - *EESC BC3016 environmental measurements*
3. Physics courses
  - One of the physics sequences outlined above without the lab courses.
4. Mathematics and statistics
  - Two semesters of calculus (*MATH V1101*, *MATH V1102*, *MATH V1201*, *MATH V1202*)
  - One of the following:
    - STAT W1211 Introduction to statistics with calculus*
    - STAT W3105 Introduction to probability*
5. Additional courses
  - Any two of the following:
    - CHEM C3080 Physical chemistry, II*
    - CHEM G4141 Bioorganic spectroscopy*
    - CHEM G4103 Advanced inorganic chemistry*
    - CHEM G4147 Advanced organic chemistry*

- BIOC G4170 *Biophysical chemistry*
- EESC W4009 *Chemical geology*
- EESC W4835 *Wetlands and climate change*
- EESC W4924 *Introduction to atmospheric chemistry*
- EESC W4925 *Principles of physical oceanography*
- EESC W4926 *Principles of chemical oceanography*
- EESC W4885 *Chemistry of continental waters*
- EAEE E4001 *Industrial ecology of Earth resources*
- EAEE E4003 *Introduction to aquatic chemistry*
- EAEE E4950 *Environmental biochemical processes*
- One additional semester of calculus

### **For a Concentration in Chemistry**

Please read *Regulations for all Chemistry Majors, Concentrators, and Interdepartmental Majors* above. No more than 4 points of *CHEM C3098* may be counted toward the concentration.

1. One of the following chemistry tracks:
  - *Track 1 (CHEM C1403-C1404, CHEM C1500, and 22 points of chemistry at the 3000 level or higher)*
  - *Track 2 (CHEM C1604, CHEM C2507, and 22 points of chemistry at the 3000 level or higher)*
  - *Track 3 (CHEM C3045-C3046, CHEM C2507, and 18 points of chemistry at the 3000 level or higher)*
2. *PHYS V1201-V1202 General physics or the equivalent*
3. Two semesters of calculus

# Classics

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Marco Fantuzzi

Helene P. Foley (Barnard)

Carmela V. Franklin

Stathis Gourouris

Seth R. Schwartz

Deborah T. Steiner

Karen Van Dyck

Gareth D. William

Nancy Worman (Barnard)

James E. G. Zetzel (chair)

## Associate Professors

Vangelis Calotychos

Kristina Milnor (Barnard)

Katharina Volk (deputy chair)

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Elizabeth Irwin

Marcus Folch

## Lecturers

Collomia Charles (Barnard)

Elizabeth Scharffenberger

When one visits Rome or Athens, they also visit the many layers of physical, historical, and cultural development that have contributed to the complex evolution of those cities. When one tours the Roman forum or the Greek Parthenon, they set foot on monuments whose physical impressiveness symbolizes political strength and historical importance; in a very physical way they experience the past. When one studies Latin and Greek language and culture, they embark on a tour of an alternative kind, making their way through texts and other cultural forms (e.g. paintings, sculptures, philosophical ideas, etc.) that bring them directly into contact with the Greco-Roman past. Literature, philosophy, history, art and architecture, linguistics, papyrology, religion: all (and more) are branches of investigation to which the modern student of classics/classical studies has access through the surviving literary and material evidence.

But when one studies in the original language Virgil's *Aeneid*, say, or Plato's philosophical writings, they find that ancient Greek or Latin literature deals with issues and ideas that are, for us, of central contemporary importance: e.g. how can I be happy? What is the best political constitution for our (or any) state? What responsibilities do I have to the society in which I live? What national significance is served or owed by literature? The study of Greek and Latin language and culture concentrates in one main area (ancient Greece and Rome) and on many of the questions that are of direct pertinence to the ways in which modern lives are shaped and lived; at the same time, Greco-Roman literature and philosophy, so fundamental to the later development of the western tradition, boast works of great intrinsic worth and interest. With an introduction to classical texts in Literature Humanities and Contemporary Civilization, classics/classical studies provides a more advanced study of ancient cultural issues and habits of mind already sampled in the Core.

Study abroad in Greece or Italy offers a variety of educational experiences that are continuous with those of the major, enriching both linguistic expertise and cultural awareness. Students in classics have the opportunity to take part in archeological digs abroad, and on occasion to assist faculty in research projects that require, e.g., bibliographical collection or the checking of research data.

Many majors progress to graduate study in classics and classical studies, and upon earning their graduate degrees they often embark on teaching careers in universities, colleges, and high schools. Many graduating majors also enter a number of other professional fields, among them law, banking, accountancy, publishing, and museum-work. Employers tend to find that students in classics are articulate on paper as well as orally, are organized of mind, and have good skills in general reasoning, an ability developed by the study of Greek and Latin language. In effect, the study of classics opens up a wide array of options, both in education and in the wider world.

The program of the department has as its twin aims the linguistic mastery of Greek and Latin and the understanding of classical literature and its background. Careful study of the language occupies the largest part of the first-year courses and is not omitted in the more advanced courses. Although literature becomes the chief subject only in the advanced courses, important authors like Homer, Plato, and Vergil are studied as literary texts already in the intermediate courses. A wide variety of courses are offered in translation.

Through a joint program with Barnard the department offers a broad range of subjects. The department annually offers four advanced courses in each language (at the *3000* or *4000* level), the content of which changes each year in order to provide a curricular range and to balance authors and genres over a two-year period.

Opportunities for individual projects of reading and research are available. Students are permitted to take graduate courses as well if they are sufficiently prepared. They can also supplement their studies within the department by work in other departments, such as art history and archaeology, history, philosophy, and the other departments of languages and literature.

It is not necessary to have previously studied either language in order to major in it. A student starting Greek or Latin at Columbia can meet all the requirements of a major within an ordinary undergraduate program.

### **In Fulfillment of the Language Requirement**

Students beginning the study of Greek or Latin at Columbia must take four terms of either of the following two-year sequences: *GREK V1101 - V1102 Elementary Greek* and *GREK V1201-V1202 Intermediate Greek*; or *LATN V1101 - V1102 Elementary Latin* and *LATN V1201 - V1202 Intermediate Latin*. With the permission of the director of undergraduate studies, *GREK V1202* may be taken before *GREK V1201*. The intensive elementary courses *GREK V1121* and *LATN V1121* may be substituted for the two-term *V1101 - V1102* sequence, and the intensive intermediate courses *GREK V1221* and *LATN V1221* may be substituted for the two-term *GREK V1201 - V1202* sequence.

For students with secondary-school training in Greek or Latin, the director of undergraduate studies determines, on the basis of records and test scores, what further work is needed to fulfill the language requirement.

### **Advanced Placement**

The department grants 3 credits for a score of 5 on the AP Vergil exam, which also satisfies the foreign language requirement. The department grants 0 credits for a score of 4 on the AP Vergil exam but the foreign language requirement is satisfied.

### **Major Program**

The department offers a major in classics and a major in classical studies. The major in classics involves the intensive study of both Greek and Latin, as well as their cultural matrix; the major in classical studies offers a more interdisciplinary approach. The major in classics is recommended for students planning to continue the study of classics in graduate school. The department also participates in the interdepartmental ancient studies program and offers a concentration in classics; these are all described below.

The major in classics and the major in classical studies are designed in part to build on the experience of the ancient world that undergraduates have acquired at Columbia in the Core Curriculum (especially in Literature Humanities). The major in classics is structured on the principle of gradual and closely monitored linguistic progress from the elementary (*1100* level) to the advanced (*3000* and *4000* levels) and ultimately to the literature survey courses (*W4105-W4106*) in Greek and/or Latin.

Those majors intending to embark on graduate study in classics are especially encouraged to undertake, in their senior year, an independent research project (*V3998*). This option is designed to allow students to personalize their experience in the major by conducting advanced study in a specialized area, and under the guidance of the specializing faculty member of their choice.

*V3998* is required in the classical studies major. Otherwise, students in classical studies are not required to take advanced courses beyond *V3996 The Major Seminar*, but are expected to follow a coherent plan of study by taking a sequence of cognate courses in different but related departments (e.g., art history and archaeology, history, etc.).

The director of undergraduate studies is responsible for overseeing the path of study followed by each student in classics or classical studies. Through close interaction with the director of undergraduate studies, as well as with other faculty members where appropriate, each major is strongly encouraged to debate the strengths and weaknesses of his or her own trajectory of study even as the requirements for the major are being completed.

## DEGREE REQUIREMENTS

### For a Major in Classics

The major in classics involves a program in both Greek and Latin languages and literatures, and in Greek and Roman civilization. Students generally emphasize the study of one of the languages (the primary language), but significant study of the other (secondary) language is required as well. The major requires a total of 34 points, of which 20 points must be taken in the primary language **above the 1100 level**, eight in the secondary language **above the 1100 level**, and six in ancient history and classical civilization.

The courses in the primary language include five courses at the *3000* or *4000* level, including the majors seminar (*V3996*) and two of the following: elements of prose style (*W4139*), the survey of the literature (*W4105-W4106*), and the senior Essay (*V3998*). Classics majors must also take the major seminar (*V3996*).

These minimum required courses total 15-17 points (depending on whether the student chooses to take none, one, or both of the literature survey courses, which are offered for four points each). A major who begins the primary language at Columbia and takes (i) the intensive intermediate course and (ii) one or both of the literature survey courses thus complete the 20-point minimum. A major who begins the primary language at Columbia and takes the intensive intermediate course but takes neither survey needs one additional course to complete the 20-point minimum. Majors who take the regular intermediate sequence or more *3000*- and *4000*-level courses may well complete more.

Those planning to go on to graduate study in classics are urged to take both terms of *W4105-W410* if possible.

To be eligible for departmental honors, students must take *V3998*.

The courses in the secondary language will at least the completion of the regular intermediate sequence (*V1201-V1202*); those who take the intensive intermediate course (*V1221*) or who come to Columbia with a background in the secondary language must take one or more courses at a higher level. Students planning graduate work in classics are encouraged to complete at least three years in the secondary language if possible.

Students are to take at least two terms of ancient history. At least one of these terms must be taken in the pertinent civilization (i.e., Roman history if the primary language is Latin). One appropriate course of a historical nature chosen from the classical civilization courses in the Department of Classics or from offerings in the Programs or Departments of Ancient Studies, Art History and Archaeology, History, or Religion may be substituted for 3 points of this requirement. All substitutions must be approved by the director of undergraduate studies.

Majors who intend to pursue graduate studies in classics are strongly urged to acquire a reading knowledge at least of German and preferably also of French; Italian is also useful.

Although it is easier to complete the major if at least one classical language is begun no later than the first year, it is possible to begin one classical language in the sophomore year and the other in the junior year and still complete the major.

### For the Major in Classical Studies

The major in classical studies requires a total of 35 points, of which 20 points must be taken in one or both of the ancient languages **above the 1101 level**. The major seminar must be among the courses taken toward attaining these 20 points.

Students are required to achieve 3 points by completing a research paper (at 3998 level) on a chosen aspect of Greek or Roman civilization under the direction of a faculty member.

### For a Major in Ancient Studies

Students interested in a major in ancient studies should see Ancient Studies in this bulletin.

### For a Concentration in Classics

The concentration in classics is designed for those who begin the study of classical languages too late to allow the completion of the major requirements but still wish a substantial program in Greek and Latin. It requires a minimum of 24 points, as follows: 17 points of the primary language **not counting courses at the 1100 level**, four points of the secondary language **not counting 1101 but counting 1102 or 1121**, and three points of ancient history or classical civilization. The courses in the primary language must include two terms at the 3000 or 4000 level plus the appropriate composition course (*W4139*).

### For a Special Concentration in Modern Greek Studies

The special concentration in modern Greek studies is designed for students who wish to combine the study of modern Greek with a major or regular concentration. It requires a minimum of 24 points as follows: four or five modern Greek courses (a minimum of 15 points) to be taken above the 1202 level, including *GRKM V3998 Senior research seminar* to be completed under the supervision of a staff member; two additional courses to be taken in related fields, including (but not limited to) classics, history, anthropology, political science, and sociology. These courses are to be chosen in consultation with the adviser and should conform to the student's overall course of studies.

## Colloquia/Interdepartmental Seminars

In 1931, a dozen years after Contemporary Civilization appeared in the College curriculum, the faculty introduced courses called “Colloquia.” These were first offered as team-taught interdisciplinary courses and were designed to provide students with differing perspectives on “important books”. The Colloquia anticipated (and supplied some of the structure for) Literature Humanities, the second set of Core courses, which were incorporated into the curriculum in 1937. Only a small number of Colloquia were offered each year, and from the outset they were available on a competitive basis to a limited number of outstanding Columbia College juniors and seniors who had to apply formally to be enrolled in the courses. Over the years, the content and structure of the Colloquia gradually changed, and in recent years, lacking a secure place in the four-year College curriculum, the Colloquia have not been offered at all.

As departments have moved toward developing interdisciplinary programs, new kinds of seminars are being considered. For example, faculty have been working to create interdisciplinary and intercultural team-taught seminars that integrate intellectual themes first introduced in Core courses within the context of specialized advanced areas of study across cultural boundaries. As these course are designed to fit within the framework of one or more majors, departments may in some instances elect to award major credit for them.



# Comparative Literature and Society

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Acting Dean of the Graduate School of Arts  
and Sciences, 2010-2011

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Victoria de Grazia (History)

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Alice Brady Pels Professor of Arts

The Institute for Comparative Literature and Society was established at Columbia in 1998 to promote a global perspective in the study of literature and its social context. Committed to cross-disciplinary study of literary works, the Institute brings together the rich resources of Columbia in the various literatures of the world; in the social sciences; and in art history, architecture, and media.

The major program in Comparative Literature and Society allows qualified students to pursue the study of literature, culture, and society with reference to material from several national traditions, or in combination of literary study with comparative study in other disciplines in the humanities and social sciences. Under the guidance of the director of undergraduate studies, students select courses offered by the various participating departments.

The program is innovatively designed for students whose interest and expertise in languages other than English permit them to work comparatively in several national or regional cultures. The course of study differs from that of traditional comparative literature programs both in its cross-disciplinary nature and in its expanded geographic range, including not just European, but also Asian, Middle Eastern, African, and Latin American cultures. The program includes course work in the social sciences, and several of the program's core courses are jointly taught by faculty from different disciplines. Students will thus explore a variety of methodological and disciplinary approaches to cultural and literary artifacts in the broadest sense. The cross-disciplinary range of the program includes visual and media studies; law and the humanities; and studies of space, cities, and architecture. As a major or

concentration, the program in comparative literature and society can be said to flow naturally from Columbia's Core Curriculum, which combines literature, art, philosophy, and social thought, and consistently attracts some of Columbia's most ambitious and cosmopolitan students.

Given the wide variety of geographic and disciplinary specializations possible within the major, students construct their course sequence in close collaboration with the director of undergraduate studies. All students, however, share the experience of taking the course *Introduction to comparative literature and society* in their sophomore year as well as the required senior seminar in the fall of their last year in the program. The major is designed for students interested in the cross-disciplinary and cross-cultural study of texts, traditions, media, and discourses in an increasingly transnational world.

Students planning to apply for admission to the major in comparative literature and society should organize their course of study in order to complete the following prerequisites by the end of the sophomore year:

1. Preparation to undertake advanced work in one foreign language, to be demonstrated by completion of two introduction to literature courses, typically numbered 3333-3350.
2. Completion of at least four terms of study of a second foreign language or two terms in each of two foreign languages.
3. Enrollment in *CPLS V3900 Introduction to comparative literature and society* in the spring semester of the sophomore year.

Information about admission requirements and application to the major can be found at <http://www.columbia.edu/cu/icls/programs/undergrad/admissions/index.html>. Students are advised to meet with the director of undergraduate studies before submitting the statement of purpose required as part of the application.

### **Departmental Honors**

To be eligible for departmental honors, students must have a minimum grade point average of 3.6 for courses in the major. Departmental honors are conferred only on students who have submitted a superior senior thesis that clearly demonstrates originality and excellent scholarship. Normally no more than 10 percent of the graduating majors in the program each year may receive departmental honors. Please note that the senior thesis is not required for the major. Information can be found about the honors program at <http://www.columbia.edu/cu/icls/programs/undergrad/honors/index.html>.

## **DEGREE REQUIREMENTS**

### **Requirements at the Time of Application (Major and Concentration)**

1. Foreign language 1: four semesters of language training (or equivalent) and two semesters of introductory literature courses, typically numbered 3330-3350
2. Foreign language 2: four semesters of one language or two semesters of two languages
3. *CPLS V3900 Introduction to comparative literature and society*, usually taken in the spring of the sophomore year
4. A GPA of at least 3.5
5. A focus statement of between one and two pages in length. The focus is a period, theme, problematic, movement, etc., that is explored from an interdisciplinary and/or a comparative perspective. The faculty understands that this statement is a work in progress, but also that it serves as a useful guide to the student's academic pursuits and course selection.

### **For a Major in Comparative Literature and Society**

The requirements for the major in comparative literature and society consist of a total of 42 points, or fourteen courses in comparative literature and society as follows. Please note that language courses taken to fulfill the application requirements 1 and 2 above, do not count toward the major or concentration. In the description below "affiliated disciplines" refers to the humanities (except the language and literature

departments), the social sciences (history, anthropology, political science, etc.), law, and architecture:

1. *CPLS V3900 Introduction to comparative literature and society*, normally taken in the spring of the sophomore year
2. Advanced courses as follows (please note that one course may be used to fulfill two of the advanced course requirements):
  - Two courses with a *CPLS* designator. *CLxx* courses, i.e., courses designated as comparative in nature by the various language and literature departments, may count for the major with director of undergraduate studies' approval
  - Two seminars (discussion-driven courses at the *3000*- or *4000*-level), chosen from among the affiliated disciplines
  - Two courses requiring readings in a language other than English, preferably conducted in the target language and for which written assignments are composed in the language as well
  - Three courses in a single national or regional literature and/or culture, chosen from any discipline or school
  - Four courses in literature or any of the affiliated disciplines and related to the student's historical or thematic focus
3. *CPLS V3991 Senior seminar in comparative literature and society*
4. Senior thesis (optional)

### **For a Concentration in Comparative Literature and Society**

The requirements for the concentration in comparative literature and society as consist of a total of 36 points, or 12 courses in comparative literature and society as follows:

1. *CPLS V3900 Introduction to comparative literature and society*, normally taken in the spring of the sophomore year
2. Advanced courses as follows:
  - Two courses with a *CPLS* designator. *CLxx* courses, i.e., courses designated as comparative in nature by the various language and literature departments, may count for the major with director of undergraduate studies' approval
  - Two seminars (discussion-driven courses at the *3000*- or *4000*-level), chosen from among the affiliated disciplines
  - One to two courses requiring readings in a language other than English, preferably conducted in the target language and for which written assignments are composed in the language as well
  - Two to three courses in a single national or regional literature and/or culture, chosen from any discipline or school
  - Two to four courses in literature or any of the affiliated disciplines and related to the student's historical or thematic focus

# Computer Science

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**Lecturer**

Adam Cannon

**Adjunct Faculty**

Steven Abrams  
Debra Cook  
Anargyros Papageorgiou  
Alexander Pasik  
Michael Reed  
Sambit Sahu  
Vijay Saraswat  
Bernard Yee

The majors in computer science provides students with the appropriate computer science background necessary for graduate study or a professional career. Computers have an impact on nearly all areas of human endeavor. Therefore, the department also offers several courses intended for students who do not plan a computer science major or concentration. The computer science majors offers maximum flexibility by providing students with a range of options for the specialization of their program. The department offers two majors: a major in computer science and a major in information science.

## Computer Science Major

Students study a common core of fundamental topics, supplemented by a track that identifies specific areas for deeper study. The foundations track prepares students for advanced work in fundamental theoretical and mathematical aspects of computing, including analysis of algorithms, scientific computing, and security. The systems track prepares students for immediate employment in the computer industry as well as advanced study in such areas as software engineering, operating systems, computer-aided digital design, computer architecture, programming languages, and user interfaces. The artificial intelligence track provides specialization for the student interested in natural language processing and systems capable of exhibiting "human-

like” intelligence. The applications track is for students interested in the implementation of interactive multimedia content for the Internet and wireless applications. The vision and graphics track exposes students to computer vision, graphics, human-computer interaction and robotics. A combination track is available to students who wish to pursue an interdisciplinary course of study combining computer science and another field in the arts, humanities, mathematics, natural sciences, or social sciences. A student planning a combination track should be aware that one additional course is required to complete this option.

### **Information Science Major**

Information science is an interdisciplinary major designed to provide a student with an understanding of how information is organized, accessed, stored, distributed, and processed in strategic segments of today’s society. Recent years have seen an explosive growth of on-line information, with people of all ages and all walks of life making use of the World Wide Web and other information in digital form. This major puts students at the forefront of the information revolution, studying how online access touches on all disciplines, changing the very way people communicate. Organizations have large stores of in-house information that are crucial to their daily operation. Today’s systems must enable quick access to relevant information, must ensure that confidential information is secure, and must enable new forms of communication among people and their access to information. The information sciences major can choose a scientific focus on algorithms and systems for organizing, accessing, and processing information or an interdisciplinary focus in order to develop an understanding of, and tools for, information modeling and use within an important sector of modern society such as economics or health.

### **Advanced Placement**

The department grants 3 points for a score of 4 or 5 on the AP Computer Science A exam along with exemption from *COMS W1004*. Students can receive credit for only one introductory computer science sequence.

### **Laboratory Facilities**

The Department has well-equipped lab areas for research in computer graphics, computer-aided digital design, computer vision, databases and digital libraries, data mining and knowledge discovery, distributed systems, mobile and wearable computing, natural-language processing, networking, operating systems, programming systems, robotics, user interfaces, and real-time multimedia. The computer facilities include a shared infrastructure of Sun and Linux multiprocessor file servers, NetApp file servers, a student interactive teaching and research lab of high-end multimedia workstations, a Microsoft programming laboratory with fifty Windows XP workstations, a Unix/Linux laboratory with forty-five Linux workstations, a large vonware system for teaching a large cluster of Linux servers for computational work, and a cluster of Sun servers. The research infrastructure includes hundreds of workstations and PCs running Solaris, Windows XP, Linux, and Mac OSX; 7 terabytes of disk space are backed up by a Sun StorEdge LT02 with a 100-tape library unit.

Research labs contain several large Linux and Solaris clusters, Puma 500 and IBM robotic arms; a UTAH-MIT dexterous hand; an Adept-1 robot; mobile research robots; a real-time defocus range sensor; interactive 3-D graphics workstations with 3-D position and orientation trackers; prototype wearable computers, wall-sized stereo projection systems; see-through head-mounted displays; a networking testbed with three Cisco 7500 backbone routers, traffic generators, Ethernet switches, Sun Ray thin clients, and a 17-node (34CPU) IBM Netfinity cluster. The department uses a 3COM SIP IP phone system. The protocol was developed in the department.

The servers are connected on a gigabit network; all have remote consoles and remote power for easy maintenance after hours. The rest of the department’s computers are connected via a switched 100 Mb/s Ethernet network, which has direct connectivity to the campus OC-3 Internet and Internet2 gateways. The campus has 802.11 a/b wireless LAN coverage.

The research facility is supported by a full-time staff of professional system administrators and programmers, aided by a number of part-time student system administrators.

## DEGREE REQUIREMENTS

### Regulations for all Computer Science Majors and Concentrators

Students may receive credit for only one of the following three courses: *COMS W1003*, *COMS W1004*, and *COMS W1005*. Students may receive credit for only one of the following four courses: *COMS W3133*, *COMS W3134*, or *COMS W3137*.

### For a Major in Computer Science

All majors should confer with their program adviser each term in planning their programs of study. Students considering a major in computer science are encouraged to talk to a program adviser during their first or second year. A typical program of study is as follows:

As a rule, no more than 12 transfer credits are accepted toward the major. A maximum of one course worth no more than 4 points passed with a grade of D may be counted towards the major or concentration.

### PROGRAM OF STUDY

1. In the first-year: *COMS W1004*.
2. In the sophomore year: *COMS W1007*, *COMS W3157*, *COMS W3203*, and *COMS W3137*.
3. In the junior and senior year: the remaining required core courses

This program allows students the most freedom possible in selecting a specialized track and completing the requirements during the junior and senior years. It is particularly important to complete the core requirements and to seek advice from a track consultant as early as possible to better plan the course of study. *COMS W1004*, *COMS W1007*, and *COMS W3137* are taught in Java, while *COMS W3157* is taught in C/C++ which allows students to become multilingual.

The major requires 41 or 44 points depending on the track as follows:

### COMPUTER SCIENCE CORE—23 POINTS:

*COMS W1004*, *COMS W1007*, *COMS W3203*, *COMS W3137*, *COMS W3157*, *COMS W3261*, and *CSEE W3827*. Students who have taken AP Computer Science in high school and received a score of 4 or 5 are exempted from *COMS W1004*.

### MATHEMATICS—3 POINTS:

One semester of calculus.

### TRACK REQUIREMENT—15 OR 18 POINTS:

Students must select one of the following six upper-level tracks. Each track, except the combined track, requires five courses consisting of required, elective breadth, and elective track courses. The combined track requires a selection of six advanced courses: three 3000- or 4000-level computer science courses and three 3000- or 4000-level courses from another field. The elective breadth requirement in each track can be fulfilled with any 3 point computer science 3000 level or higher course that is not a computer science core course or a technical elective course in that track. In addition to the breadth elective, the track requirements are as follows:

#### Foundations track—12 points:

For students interested in algorithms, computational complexity, scientific computing, and security. The required track courses are *CSOR W4231*, *COMS W4236*, and *COMS W4241*. The elective track courses include *COMS W4203*, *COMS W4205*, *COMS W4252*, *COMS W4261*, *COMS W4281*, *COMS W4444*, *COMS*

*W4771*, *COMS W4772*, and adviser approved *COMS W3902*, *COMS W3998*, *COMS W4901*, *COMS W4995*, and *COMS W4996*.

#### **Systems track—12 points:**

For students interested in networking, programming languages, operating systems, and software systems. The required track courses are *COMS W4115*, *COMS W4118*, and *CSEE W4119*. The elective track courses include any *COMS W41xx* course, any *COMS W48xx* course, *COMS W4444*, and advisor approved *COMS W3902*, *COMS W3998*, *COMS W4901*, *COMS W4995*, and *COMS W4996*.

#### **Artificial intelligence track—12 points:**

For students interested in machine learning, robotics, and systems capable of exhibiting “human-like” intelligence. The required track courses are *COMS W4701* plus any two of *COMS W4705*, *W4731*, *W4733*, and *W4771*. The elective track courses include *COMS W40xx*, *COMS W4165*, *COMS W4252*, *COMS W47xx*, and advisor approved *COMS W3902*, *COMS W3998*, *COMS W4901*, *COMS W4995*, and *COMS W4996*.

#### **Applications track—12 points:**

For students interested in interactive multimedia applications for the internet and wireless networks. The required track courses are *COMS W4115*, *COMS W4170*, and *COMS W4701*. The elective track courses include *COMS W41xx*, *COMS W47xx*, and advisor approved *COMS W3902*, *COMS W3998*, *COMS W4901*, *COMS W4995*, and *COMS W4996*.

#### **Vision and graphics track—12 points:**

For students interested in computer vision, graphics, and advanced forms of human computer interaction. The required track courses are *COMS W4160* and *COMS W4731*. The elective track courses include *COMS W4162*, *COMS W4165*, *COMS W4167*, *COMS W4170*, *COMS W4172*, *COMS W4701*, *COMS W4733*, *COMS W4735*, *COMS W4771*, and advisor approved *COMS W3902*, *COMS W3998*, *COMS W4901*, *COMS W4995*, and *COMS W4996*.

#### **Combination track—15 points:**

For students who wish to combine computer science with another discipline. A coherent selection of six courses is required: three 3000- or 4000-level computer science courses and three 3000- or 4000-level courses from another discipline. This track should be selected by the end of the first semester of the junior year and the courses should be planned with the adviser.

#### **For a Major in Computer Science—Mathematics**

For a description of the joint major in computer science—mathematics, see the Mathematics section in this bulletin.

#### **For a Major in Information Science**

A minimum of 33 points including a core requirement of five courses. Students must then select at least six upper-division elective courses, focusing on an information-intensive thematic area.

The core requirement consists of *COMS W1001*; *COMS W1004*; *COMS W1007*; *COMS W3134*; and *SIEO W4150* or *SIEO W3600*.

The elective courses should be chosen with a faculty adviser to focus on the modeling and use of information within the context of a disciplinary theme. Following are some suggested programs of instruction:

#### **INFORMATION SCIENCE AND CONTEMPORARY SOCIETY:**

Students can focus on the fundamental principles and technologies involved in the organization, searching, transmission, and manipulation of on-line information by

studying database management systems, information retrieval systems, Web search engines, and natural language processing technology. Alternatively, students may focus on how humans use technology and how technology has changed society. Given that these systems and technology often involve substantial interaction with humans, students are encouraged to take courses from human-focused areas such as human-computer interaction, psychology, and sociology. The requirements include:

1. Three courses involving processing of text or data (e.g., *COMS W4111 Introduction to Databases*, *COMS W4705 Natural language processing*, *COMS W4771 Machine learning*)
2. Two courses from human-focused areas (e.g., *COMS W4170 User interface design*, *PSYC W2215 Cognition: mind and brain*, *SOCI W3233 Six degrees and the new science of networks*)
3. Two application courses (e.g., from economics such as *ECON W3025 Financial markets* or biology such as *BINF G4013 Biological sequence analysis*)

### **INFORMATION SCIENCE AND THE ECONOMY:**

Students can focus on understanding information modeling together with existing and emerging needs in economics and finance, as well as algorithms and systems to address those needs by taking courses in economics, finance, artificial intelligence and mathematical modeling. For example, students may take courses in machine learning, statistics, and econometrics to understand how computers are enabling prediction modeling in many disciplines. The requirements include:

1. Two courses in artificial intelligence and mathematical modeling (e.g., *COMS W4701 Artificial intelligence*, *COMS W4771 Machine learning*)
2. One course involving processing of text or data (e.g., *COMS W4111 Introduction to Databases*)
3. Two courses each in economics (e.g., *ECON W1105 Principles of economics*, *ECON BC3017 Economics of business organizations*) and finance (e.g., *IEOR E4007 Optimization models and methods for financial engineering*, *IEOR E4308 Industrial budgeting and financial control*)

### **INFORMATION SCIENCE AND HEALTH SCIENCES:**

Students can focus on understanding information modeling together with existing and emerging needs in health sciences, as well as algorithms and systems to address those needs by taking courses in computational biology, computational genomics, and biomedical informatics. For example, students may take courses that integrate computer science and biology, leading, for example, to understanding of the role that computational processes play in decoding the human genome. The requirements include:

1. Three courses in either artificial intelligence and mathematical modeling (e.g., *COMS W4701 Artificial intelligence*), processing of text or data (e.g., *COMS W4111 Introduction to Databases*), or human computer interaction (e.g., *COMS W4170 User interface design*)
2. Three courses drawn from the biomedical area (e.g., *ECBM E3060/E4060 Introduction to genomic information science and technology*, *BIOL W4037 Bioinformatics of gene expression*, *BINF G4001 Introduction to computer applications in health care and biomedicine*, *BINF G4004 Applied clinical information systems*)
3. One course drawn from a human centered area (e.g., *PSYC W2215 Cognition: mind and brain*, *SOCI W3233 Six degrees and the new science of networks*)

### **For a Concentration in Computer Science**

A minimum of 23 points. Required computer science courses: *COMS W1004*, *COMS W1007*, *COMS W3203*, *COMS W3137*, *COMS W3157*, *COMS W3261*, and *CSEE W3827* or any 3 point 4000-level computer science course.



# Creative Writing

**Director of Undergraduate Studies:** Prof. Stacey D'Erasmus, 617 Kent Hall; 854-3774; [smd2121@columbia.edu](mailto:smd2121@columbia.edu)

**Executive Committee on Undergraduate Creative Writing**

Prof. Sam Lipsyte, Writing Division, School of the Arts, 415 Dodge; 854-3765; [sam.lipsyte@columbia.edu](mailto:sam.lipsyte@columbia.edu)

Prof. Binnie Kirshenbaum (*chair*), Writing Division, School of the Arts, 415 Dodge; 854-4391; [bk185@columbia.edu](mailto:bk185@columbia.edu)

Prof. Alan Ziegler, Writing Division, School of the Arts, 415 Dodge; 854-4391; [az8@columbia.edu](mailto:az8@columbia.edu)

**URL:** <http://www.columbia.edu/cu/writing>

**Professors**

Timothy Donnelly  
Alan Ziegler

**Associate Professors**

Ben Marcus

**Assistant Professors**

Stacey D'Erasmus  
Sam Lipsyte

**Lecturers**

Joshua Bell  
Amy Benson  
Sonya Chung

**Adjunct Professors**

Benjamin Anastas  
Ellis Avery  
Cris Beam  
Priscilla Becker  
Sophie Cabot Black  
Rebecca Curtis  
Emily Fragos  
Aaron Hamburger  
Ryan Harty  
Stefania Heim  
Colette Inez  
Gregory Lichtenberg  
Kelly McMasters  
Idra Novey  
Jennifer Offill  
Cecily Parks  
Phyllis Raphael  
Mark Rozzo  
Karen Russell  
Brian Seibert

The Creative Writing Program combines intensive writing workshops with seminars that study literature from a writer's perspective. While students develop and hone their literary technique in workshops, the creative writing seminars (which explore literary technique as well as history) broaden their sense of possibility by exposing them to the various ways, historically, that language has been used to make art.

As a supplement to the workshops and seminars, related courses for the major can be drawn from departments such as English, comparative literature and society, philosophy, history, and anthropology, among others.

The major in creative writing is by application only. Please see the Creative Writing Program website for details.

## DEGREE REQUIREMENTS

### For a Major in Creative Writing

A minimum of 36 points are required: five workshops, four seminars, and three related courses.

## WORKSHOP CURRICULUM

Students in the workshops produce original works of fiction, poetry, or nonfiction and submit them to their classmates and instructor for a close critical analysis. Workshop critiques (which include a detailed written report, as well as thorough line-edits) assess the mechanics and merits of the piece of writing, while individual conferences with the instructor distill the various critiques into a direct plan of action to improve the work. A student writer develops by practicing the craft under the diligent critical

attention of his or her peers and instructor. This dynamic is meant to continually assist the student writer toward new levels of creative endeavor.

Fifteen points within the division in the following courses. One workshop must be in a genre other than the primary focus. For instance, a fiction writer might take four fiction workshops and one poetry workshop.

1. Beginning workshop: Designed for students who have little or no previous experience writing literary texts in a particular genre.
  - Fiction (*CREA W1001*)
  - Nonfiction (*CREA W1101*)
  - Poetry (*CREA W1201*)
2. Intermediate workshop: Permission required. Admission by writing sample. Enrollment limited to fifteen students. This course can be repeated in fulfillment of the major.
  - Fiction (*CREA W2001*)
  - Nonfiction (*CREA W2101*)
  - Poetry (*CREA W2201*)
3. Advanced workshop: Prerequisite: intermediate workshop. Permission required. Admission by writing sample. Enrollment limited to fifteen students. This course can be repeated in fulfillment of the major.
  - Fiction (*CREA W3001*)
  - Nonfiction (*CREA W3101*)
  - Poetry (*CREA W3201*)
4. Senior creative writing workshop: Seniors who are majors in creative writing are given priority for this course. Enrollment is limited, and is by permission of the instructor. The senior workshop offers students the opportunity to work exclusively with classmates who are at the same high level of accomplishment in the major. This course is only offered by graduate faculty professors.
  - Fiction (*CREA W3697* or *CREA W3698*)
  - Nonfiction (*CREA W3798*)
  - Poetry (*CREA W3898*)

## SEMINAR CURRICULUM

The creative writing seminars provide the intellectual ballast that informs and deepens the work of the creative writing student. Students in the creative writing seminars read a book each week and engage in roundtable discussions about the artistic attributes of the texts, in order to better understand how literature might be made. Only through a deep analysis of outstanding and diverse works of literature can the creative writer build the resources necessary to produce his or her own accomplished creative work.

Twelve points within the division. Two of the seminars must be from Craft and Practice, and two must be from History and Context:

1. Craft and practice: These seminars offer close examination of literary techniques such as plot, point of view, tone, suspense, and narrative voice. Extensive readings are required, along with creative exercises.
  - *CREA W3301 Fiction seminar*
  - *CREA W3302 Fiction seminar*
  - *CREA W3333 Nonfiction seminar*
  - *CREA W3334 Critical writing*
  - *CREA W3336 Translation*
  - *CREA W3351 Poetry seminar*
  - *CREA W3303 Fiction Seminar*
  - History and context: These seminars offer a broad view of literary history as it relates to the concerns of a writer. They cover specific genres or periods of time, and seek to inform students about the kinds of approaches that are possible in their chosen genre. Extensive readings are required, along with short critical papers or creative exercises.
    - CREA W3303 Fiction seminar*
    - CREA W3306 Fiction seminar*
    - CREA W3308 Short prose forms*

—*CREA W3336 Translation*  
—*CREA W3352 Poetry seminar*

### CREATIVE WRITING MASTER CLASS

*Special topics* (1 pt): Master classes put students in contact with distinguished teachers for concentrated tutorials on a variety of literary topics, all of which relate to the creative pursuits of a writer. The master classes are offered, usually, by visiting faculty of the highest level, and are restricted to students in the major.

### RELATED COURSES (9 PTS)

Related courses should provide concentrated intellectual and creative stimulation for the student writer and exposure to a body of ideas that enrich the student's artistic instincts. These courses are necessarily different for each student-writer, and are drawn from various departments.

Students determine, in consultation with their faculty advisers, the related courses that best inform their creative work.

# Dance

**Director of Undergraduate Studies:** Prof. Lynn Garafola; 854-9770

**Departmental Administrator:** Sandra Dos Santos; 854-2995

**Departmental Office:** 204 Barnard Hall Annex; 854-2995

**URL:** <http://dance.barnard.edu>

## Professors

Lynn Garafola

## Professor of Professional Practice

**Mary Cochran (chair and artistic director)**

## Assistant Professor

Paul Scolieri

## Assistant Professor of Professional Practice

Colleen Thomas

## Senior Associate

Katie Glasner (assistant chair)

## Adjunct Professors

Uttara Coorlawala

Allegra Kent

## Adjunct Associate Professor

Mindy Aloff

## Lecturers

Cynthia Anderson

Becky Bliss

Mary Lisa Burns

Maguette Camara

Mary Carpenter

Tessa Chandler

Ori Flomin

Liza Gennaro

## Lecturers (continued)

Katiti King

Robert La Fosse

Stephanie Liapis

Jodi Melnick

Jeffrey Moen

Margaret Morrison

David Parker

Sabrina Pillars

Kathryn Sullivan

Caitlin Trainor

Karla Wolfangle

## Artists in Residence

Jon Kinzel

Faye Driscoll

Kyle Abraham

Jill Johnson

## Associates

Nathalie Jones

Gloria Marina

## Musician Coordinator

Gilles Obermayer

## Technical Director

Tricia Toliver

The Barnard College Department of Dance, located in a world dance capital, offers an interdisciplinary program that integrates the study of dance within a liberal arts setting of intellectual and creative exploration. The major builds upon studio courses, the department's productions at Miller Theater, Dance Theater Workshop, and other venues, as well as a rich array of dance studies courses, allowing students' creative work to develop in dialogue with critical inquiry into the history, culture, theory and forms of western and non-western performance, typically enhanced by study in other disciplines. Students work with accomplished artists whose work enriches contemporary American dance; they also study with outstanding research scholars. Making, thinking about, and writing about art are an essential part of the liberal arts education. For this reason the Department of Dance offers technique courses for students of all levels of expertise, while opening its other courses to majors and non-majors alike, who may also audition for its productions. The department partners with cultural institutions in New York City to connect students with the professional world.

The Department of Dance is fully accredited and in good standing with the National Association of Schools of Dance.

## Dance Technique Courses

Level I courses, except for global and somatic courses, receive a Pass/Fail grade and have no prerequisite. All other courses will receive a letter grade and require a

placement audition (held at the first meeting of classes) or permission of the instructor. Courses may be taken to fulfill the physical education requirement. One-point dance technique courses taken by a non-dance major for credit over and above the physical education requirement are included in the existing maximum of 18 points of studio, performing art, or professional school courses which may be credited toward the degree; a maximum of six courses in dance technique can be credited. A student may receive academic credit for a dance technique class only if she has completed or is concurrently completing the Physical Education requirement.

## **BALLET**

Technique of classical ballet emphasizing proper alignment and graduated study of its vocabulary. Artistry of articulation, phrasing, dynamics, and nuance in the broad range of classical materials are addressed at each level.

## **MODERN**

The study of contemporary dance based on the work of 20th-century innovators—Cunningham, Brown, Humphrey, Limón, and others. Aesthetic principles of modern dance are taught with increased technical demands required in each successive level.

## **GLOBAL AND SOMATIC FORMS**

The study of dance forms including classical Spanish, jazz, tap, West African, and Indian.

## **DEGREE REQUIREMENTS**

### **For a Major in Dance**

Columbia college students who major in dance are advised to begin course work in the first year with a request to major in dance to be submitted for faculty approval at the end of the sophomore year. At that time a major adviser at Barnard is selected.

Majors must fulfill 42 points within the Barnard College Department of Dance. The eleven-course requirement includes:

1. One course in dance history ( *DNCE BC2565* or *DNCE BC2566* )
2. One course in movement science ( *DNCE BC2501*, *DNCE BC2561*, *DNCE BC2562* )
3. One course in dance composition ( *DNCE BC2563* or *DNCE BC2564* )
4. One course with a significant writing component ( *DNCE BC2560*, *DNCE BC2570*, *DNCE BC2580*, *DNCE BC3000*, *DNCE BC3570*, *DNCE BC3567*, *DNCE BC3574*, *DNCE BC3576*, *DNCE BC3577*, *DNCE BC3582* )
5. Senior seminar in dance (*DNCE BC3591*)
6. Six additional non-technique courses chosen from among those offered by the department

Majors must also complete 8 points in 1-point technique courses, two of which may fulfill the physical education requirement.

Under the supervision of the dance faculty, majors are expected to present a senior thesis to demonstrate their acquired skill and knowledge of dance. Research papers should be 25–30 pages in length and are generally a continuation of topics researched in *DNCE BC3591* . For the performance requirement, a student must complete work in the following two categories: (1) repertory and (2) presentation of their own choreography. Students may elect *DNCE BC3592* or *DNCE BC3593* as part of the eleven-course requirement.

### **For a Concentration in Dance**

Columbia college students who concentrate in dance are advised to begin course work in the first year with a request to concentrate in dance to be submitted for faculty approval at the end of the sophomore year. At that time a concentration adviser at Barnard is selected.

Concentrators must fulfill 33 points within the Barnard College Department of Dance. The eight-course requirement includes:

1. One course in dance history ( *DNCE BC2565* or *DNCE BC2566* )
2. One course in movement science ( *DNCE BC2501*, *DNCE BC2561*, *DNCE BC2562* )
3. One course in dance composition ( *DNCE BC2563* or *DNCE BC2564* )
4. One course with a significant writing component ( *DNCE BC2560*, *DNCE BC2570*, *DNCE BC2580*, *DNCE BC3000*, *DNCE BC3570*, *DNCE BC3567*, *DNCE BC3574*, *DNCE BC3576*, *DNCE BC3577*, *DNCE BC3582* )
5. Senior seminar in dance ( *DNCE BC3591* )
6. Three additional non-technique courses chosen from among those offered by the department

Concentrators must complete the remaining 8 points in 1-point technique courses, two of which may fulfill the physical education requirement.

Under the supervision of the dance faculty, concentrators are expected to present a senior thesis to demonstrate their acquired skill and knowledge of dance. Research papers should be 25–30 pages in length and are generally a continuation of topics researched in *DNCE BC3591*. For the performance requirement, a student must complete work in the following two categories: (1) repertory and (2) presentation of their own choreography. Students may elect *DNCE BC3592* or *DNCE BC3593* as part of the eight-course requirement.

## Drama and Theatre Arts

**Director of Undergraduate Studies:** Patricia D. Denison, 412 Barnard Hall; 854-8375;  
pd92@columbia.edu; W. B. Worthen, 506 Milbank Hall; 854-2757;  
wworthen@barnard.edu

**Departmental Assistant:** Michael Placito, 236 Milbank Hall; 854-2080; mplacito@barnard.edu  
**Departmental Office:** 507 Milbank Hall, Barnard College; 854-2079

**URL:** <http://www.barnard.edu/theatre/>

### Interdepartmental Committee on Drama and Theatre Arts

Arnold P. Aronson  
School of the Arts, Theatre

Steven Chaikelson  
School of the Arts, Theatre

Helene P. Foley  
Barnard, Classics

Martin Puchner  
English and Comparative Literature

Austin E. Quigley (chair)  
English and Comparative Literature

W.B. Worthen  
Barnard, Theatre

### Department of Theatre, Barnard College

Betsy Adams  
Rob Bundy  
Steven Chaikelson  
Pamela Cobrin  
Kyle deCamp  
Patricia Denison  
Sharon Fogarty  
Sandra Goldmark  
Charise Greene  
Rebecca Guy  
Tuomas Hiltunen  
Maja Horn  
Stacey McMath  
Shayoni Mitra  
Piia Mustamaki  
Sally Oswald  
Fitz Patton  
Rita Pietropinto  
Alice Reagan  
Caridad Svich  
Wendy Waterman  
Hana Worthen  
W.B. Worthen (chair)

The major in drama and theatre arts, a joint program with the Barnard College Department of Theatre, teaches students to create and interpret drama and theatre in the context of a liberal arts curriculum. Early in the major, students are given a foundation in theatre history and world theatre traditions as well as in performance and production. As students continue to move through the program, they acquire a comprehensive knowledge of dramatic literature, theatre history, and theories of the theatre, which they learn to integrate with their growing expertise in acting, directing, design, and playwriting. Committed to situating theatre within cultural and historical contexts, the program examines different traditions around the world and the ways in which they interact. Course offerings cover diverse traditions and forms of theatre, ranging from Shakespeare, Chinese opera, and commedia dell'arte to stage realism, expressionism, and the avant-garde in lectures, seminars, acting labs, design studios, and performances at the Minor Latham Playhouse. The major culminates in an individually designed senior project, which approaches theatre performance by means of creative interpretation as well as literary, historical, and theoretical analysis. The senior project results in either a theatre production or a written thesis grounded in historical and scholarly research.

Plays participate in literary traditions, but they, along with other kinds of performances, are also part of social life. Theatre thus emerges as a site of cultural innovation, transmission, and contestation involving a variety of languages including verbal, scenic, musical, and physical. Fostering both creative and analytic thought, the theatre major is valuable not only to undergraduates who aim to pursue advanced degrees or careers in the field, but also to those interested in the study of languages, literatures, and the arts. For this reason, students are encouraged to supplement their course work in drama and theatre with courses in other departments, such as anthropology, architecture, art history and archaeology, classics, dance, film, English and comparative literature, music, and philosophy.

## DEGREE REQUIREMENTS

### For a Major in Drama and Theatre Arts

Individual programs of study are arranged in consultation with the director of undergraduate studies. Students intending to major in drama and theatre arts should plan their programs before the end of their sophomore year.

For a major in drama and theatre arts, a student is required to complete 39 points from the categories described below.

### DRAMATIC LITERATURE AND THEATRE HISTORY:

Six courses as follows:

1. Two courses in theatre history:
  - *THTR BC3150*
  - *THTR BC3151*
2. One course in drama, theatre, and theory:
  - *THTR BC3166*
  - *ENTA W3702*
3. One course in Shakespeare
4. Two courses in dramatic literature, one of which must be a seminar

### THEATRE PRACTICE:

Six courses as follows:

1. One course in world theatre:
  - *THTR V3000*
  - *THTR V3155*
2. One course in theatre design:
  - *THTR BC3132*
  - *THTR BC3133*
  - *THTR BC3134*
  - *THTR BC3135*
  - *THTR BC3136*
  - *THTR BC3510*
  - *THTR BC4001*
3. One course in acting:
  - *THTR V2007*
  - *THTR V3004*
  - *THTR V3005*
4. One course in directing:
  - *THTR BC3200*
  - *THTR BC3201*
5. Two courses made in consultation with the major adviser that continue work in one of these areas:
  - Design
  - Acting
  - Directing
  - Playwriting

### SENIOR THESIS:

One of the following courses:

1. *THTR BC3997 Senior thesis: performance* (design, acting, directing, or playwriting). Before doing their senior performance thesis, students are required to complete a minor crew assignment, usually in the first two years, and a major crew assignment, usually in the junior year during the Senior Thesis Festival.
2. *THTR BC3998 Senior thesis: history, theory, dramaturgy, criticism*



# Earth and Environmental Sciences

## Directors of Undergraduate Studies:

Prof. Nicholas Christie-Blick, on leave 2011-2012  
 Prof. Walter C. Pitman III, Lamont-Doherty Earth Observatory; (845) 365-8397; [pitman@ldeo.columbia.edu](mailto:pitman@ldeo.columbia.edu)  
 Prof. Sidney Hemming; Lamont-Doherty Earth Observatory; (845) 365-8417; [sidney@ldeo.columbia.edu](mailto:sidney@ldeo.columbia.edu)  
 Prof. Terry Plank; Lamont-Doherty Earth Observatory; (845) 365-8410; [tplank@ldeo.columbia.edu](mailto:tplank@ldeo.columbia.edu)

**Academic Department Administrator:** Mia Leo, Lamont-Doherty Earth Observatory; (845) 365-8633; [mia@ldeo.columbia.edu](mailto:mia@ldeo.columbia.edu)

**Undergraduate Program Coordinator:** Carol Mountain, 554 Schermerhorn Extension; 854-9705; (845) 365-8551; [carolm@ldeo.columbia.edu](mailto:carolm@ldeo.columbia.edu)

## Departmental Offices:

556-7 Schermerhorn; (212) 854-4525  
 106 Geoscience, Lamont-Doherty Earth Observatory; (845) 365-8550

**URL:** <http://eesc.columbia.edu/>

## Professors

Wallace S. Broecker  
 Mark A. Cane  
 Nicholas Christie-Blick  
 Joel E. Cohen (School of International and Public Affairs)  
 Peter B. de Menocal (chair)  
 Peter Eisenberger (Earth Institute)  
 Goran Ekstrom  
 Steven L. Goldstein (associate chair)  
 Arnold L. Gordon  
 Kevin L. Griffin  
 Sidney R. Hemming  
 Peter B. Kelemen  
 Jerry F. McManus  
 William H. Menke  
 John C. Mutter  
 Paul E. Olsen  
 Stephanie L. Pfirman (Barnard)  
 Terry A. Plank  
 Lorenzo M. Polvani  
 G. Michael Purdy  
 Peter Schlosser  
 Christopher H. Scholz  
 Adam H. Sobel  
 Marc W. Spiegelman  
 Martin Stute (Barnard)  
 David Walker

## Associate Professors

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 Arlene M. Fiore  
 Maria Tolstoy

## Assistant Professors

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 Meredith Nettles  
 Tiffany A. Shaw

## Adjunct Professors

Geoffrey A. Abers  
 Robert F. Anderson  
 W. Roger Buck IV  
 Anthony D. Del Genio  
 John J. Flynn  
 James E. Hansen  
 Kim A. Kastens  
 Arthur L. Lerner-Lam  
 Douglas G. Martinson  
 Mark A. Norell  
 Hsien Wang Ou  
 Dorothy M. Peteet  
 Walter C. Pitman III  
 Christopher Small  
 Taro Takahashi  
 Minfang Ting  
 Spahr C. Webb

## Adjunct Associate Professors

Lisa M. Goddard  
 Andrew Juhl  
 Joerg M. Schaefter  
 Gisela Winckler

## Lecturers

Roger N. Anderson  
 Natalie T. Boelman  
 James R. Cochran  
 Andrew A. Lacis  
 Ronald L. Miller  
 Jason E. Smerdon  
 Andreas M. Thurnherr

The undergraduate major in earth and environmental sciences provides an understanding of the natural functioning of our planet and considers the consequences of human interactions with it. Our program for majors aims to convey an understanding of how the complex Earth System works at a level that will encourage students to think creatively about the Earth System processes and how to address

multidisciplinary environmental problems. The breadth of material covered provides an excellent background for those planning to enter the professions of law, business, diplomacy, public policy, teaching, journalism, etc. At the same time, the program provides sufficient depth so that our graduates will be prepared for graduate school in one of the Earth sciences. The program can be adjusted to accommodate students with particular career goals in mind.

The department's close affiliations with the Lamont-Doherty Earth Observatory, the American Museum of Natural History (AMNH), NASA's Goddard Institute for Space Studies (GISS), the Earth Institute at Columbia (EI), and several departments within the Fu Foundation School of Engineering and Applied Sciences afford opportunities for student participation in a wide variety of current research programs. Summer employment, research, and additional educational opportunities are available at Lamont and GISS. The department encourages majors to become involved in a research project by their junior year.

All majors and concentrators, when planning their programs of study, should regularly consult the directors of undergraduate studies and make themselves aware of the requirements for their particular program.

### **Environmental Science Major**

The environmental science major curriculum provides an introduction to a variety of environmentally related fields. Environmental science majors are required to take three semesters of introductory courses and to obtain a grounding in basic physics, chemistry, biology, and mathematics. Here, students are allowed some choice depending on interest. With this introduction to the Earth's environment and equipped with a knowledge of the basic sciences, students are prepared to choose a set of upper-level courses in consultation with an undergraduate adviser. All environmental science majors are required to complete a research project, providing a practical application of mastered course work. This research culminates in the writing of a senior thesis. The research and the thesis are usually done at Lamont-Doherty Earth Observatory with guidance from a faculty member or a research scientist (free shuttle bus between Morningside and Lamont). However, other options are also possible. Environmental science majors have an option to complete the special concentration in environmental biology for environmental science majors.

### **Earth Science Major**

The major in earth science follows a similar rationale but is designed to allow students to pursue particular fields of the Earth Sciences in greater depth. Compared with the Environmental Science major, one fewer introductory course is required, while one additional advanced course should be part of the plan of study. The Earth Science major also offers the possibility of in-depth field experience through a six- to eight-week summer course, for which arrangements are made through another university. The research and senior thesis capstone requirement is the same as for the environmental science major. The geology summer field course may be used as an alternative means for fulfilling the capstone requirement in the Earth Science major.

### **Concentrations**

Our program for concentrators serves students who want more exposure to Earth and Environmental science than is provided by introductory-level courses. The program aims to provide concentrators with experience in data analysis and a thorough introduction to the Earth's systems.

The concentrations in environmental science and the concentration in earth science are designed to give students an understanding of "how the Earth works", and an introduction to the methods used to investigate earth processes, including their capabilities and limitations. Concentrators often join the social professions (e.g., business, law, medicine, etc.) and take with them a strong scientific background. They take the same introductory courses as the majors, but fewer basic science and upper-level courses are required.

In addition to the environmental science and earth science concentrations, the department sponsors a special concentration which must be done in conjunction with

the environmental biology major. Students should be aware that they must complete the environmental biology major in order to receive credit for the special concentration. There is also a special concentration in environmental biology for environmental science majors sponsored by the Department of Ecology, Evolution, and Environmental Biology.

All majors and concentrators, when planning their programs of study, should regularly consult the directors of undergraduate studies, who can be contacted through the department office on the fifth floor of Schermerhorn. The requirements listed for the different majors and concentrations are special to this department and must be read in conjunction with the general requirements for the bachelor's degree. Declaration of the major must be approved by the department and filed in the department office.

## Grading

The grade of D is not accepted for any course offered in fulfillment of the requirements toward a major or concentration in this department.

## Departmental Honors

The Department of Earth and Environmental Science awards departmental honors to the major or majors in earth science or environmental science judged to have the best overall academic record. The award is accorded to no more than 10 percent of the graduating class, or one student in the case of a class smaller than 10. A grade point average of at least 3.6 in the major and a senior thesis or equivalent research of high quality are required. Students who wish to be considered should contact the director of undergraduate studies early in their senior year.

## Fees

Fees charged partially cover the cost of nonreturnable items.

## DEGREE REQUIREMENTS

### For a Major in Environmental Science

minimum of 47 points as follows:

#### INTRODUCTORY ENVIRONMENTAL SCIENCE (13.5 POINTS):

1. *EESC V2100 Earth's environmental systems: climate*
2. *EESC V2200 Earth's environmental systems: solid earth*
3. *EESC V2300 Earth's environmental systems: life*

#### INTRODUCTORY SCIENCE (15.5 POINTS):

1. *CHEM C1403 or BC2001 General chemistry I*
2. One of the following:
  - *PHYS V1201 General physics, I*
  - *PHYS C1401 Introduction to mechanics and thermodynamics*
  - *PHYS C1601 Physics, I: mechanics and relativity*
  - *PHYS C2801 Accelerated physics, I*
3. *MATH V1101 Calculus, I*
4. Two of the courses listed below, one each from two of the following groups:
  - Chemistry
    - CHEM C1404 General chemistry, II*
    - C3071 Introduction to inorganic chemistry*
    - BC3230 Organic chemistry, I*
  - Physics
    - PHYS V1202 General physics, II*
    - PHYS C1402 Introduction to electricity, magnetism, and optics*
    - PHYS C1602 Physics II: thermodynamics, electricity, and magnetism*
    - PHYS C2802 Accelerated physics, II*
  - Mathematics/statistics/data analysis

- MATH V1102 Calculus, II*
- STAT W1211 Introduction to statistics (with calculus)*
- EESC BC3017 Environmental data analysis*
- *Environmental biology*
- EEEB W2001 Environmental biology, I: molecules to cells*

#### **ADVANCED ENVIRONMENTAL SCIENCE (12 POINTS):**

1. Four of the following courses:
  - *EESC W3015 The Earth's carbon cycle*
  - *EESC W3018 Weapons of mass destruction*
  - *EESC V3101 Geochemistry for a habitable planet*
  - *EESC V3201 Solid Earth dynamics*
  - *EESC W4008 Introduction to atmospheric science*
  - *EESC W4050 Global assessment and monitoring using remote sensing*
  - *EESC W4090 Introduction to geochronology and thermochronology*
  - *EESC W4223 Sedimentary geology*
  - *EESC W4330 Introduction to terrestrial paleoclimate*
  - *EESC W4550 Plant ecophysiology*
  - *EESC W4835 Wetlands and climate change*
  - *EESC W4885 The chemistry of continental waters*
  - *EESC W4886 Isotope geology, I*
  - *EESC W4887 Isotope geology, II*
  - *EESC W4917 Earth/human interactions*
  - *EESC W4920 paleoceanography*
  - *EESC W4925 Physical oceanography*
  - *EESC W4926 Principles of chemical oceanography*
  - *EESC W4937 Cenozoic paleoceanography*
  - *EESC W4947 Plate tectonics*
  - *EESC BC3016 Environmental measurements*
  - *EESC BC3017 Environmental data analysis*
  - *EESC BC3200 Exotoxicology*
  - *EESC BC3025 Hydrology*
  - *EEAE E2002 Alternative energy resources*

#### **RESEARCH/THESIS (6 POINTS):**

1. *EESC BC3800 or BC3801 Senior research seminar*
2. *EESC W3901 Environmental science senior seminar*

Students may substitute two of the advanced environmental science courses with other *EESC* courses or courses from other departments with the adviser's permission.

#### **For a Major in Earth Science**

A minimum of 47 points as follows:

#### **INTRODUCTORY EARTH SCIENCE (8.5 POINTS):**

1. One of the following:
  - *EESC V1011 Introduction to earth sciences, I*
  - *EESC V2200 Earth's environmental systems: solid earth*
2. One of the following:
  - *EESC V2100 Earth's environmental systems: climate*
  - *EESC V2300 Earth's environmental systems: life*

**INTRODUCTORY SCIENCE (15.5 POINTS):**

1. *CHEM C1403 or BC2001 General chemistry I*
2. One of the following:
  - *PHYS V1201 General physics, I*
  - *PHYS C1401 Introduction to mechanics and thermodynamics*
  - *PHYS C1601 Physics, I: mechanics and relativity*
  - *PHYS C2801 Accelerated physics, I*
3. Two of the courses listed below, one each from two of the following groups:
  - Chemistry
    - CHEM C1404 or BC2002 General chemistry, II*
    - C3071 Introduction to inorganic chemistry*
    - BC3230 Organic chemistry, I*
  - Physics
    - PHYS V1202 General physics, II*
    - PHYS C1402 Introduction to electricity, magnetism, and optics*
    - PHYS C1602 Physics II: thermodynamics, electricity, and magnetism*
    - PHYS C2802 Accelerated physics, II*
  - Mathematics/statistics/data analysis
    - MATH V1102 Calculus, II*
    - STAT W1211 Introduction to statistics (with calculus)*
    - EESC BC3017 Environmental data analysis*
  - Environmental biology
    - EEEB W2001 Environmental biology, I: molecules to cells*

**ADVANCED EARTH SCIENCE (17 POINTS):**

1. Five of the following courses:
  - *EESC W3010 Field geology*
  - *EESC W3018 Weapons of mass destruction*
  - *EESC V3101 Geochemistry for a habitable planet*
  - *EESC V3201 Solid Earth dynamics*
  - *EESC W4008 Introduction to atmospheric science*
  - *EESC W4050 Global assessment and monitoring using remote sensing*
  - *EESC W4085 Geodynamics*
  - *EESC W4090 Introduction to geochronology and thermochronology*
  - *EESC W4113 Introduction to mineralogy*
  - *EESC W4223 Sedimentary geology*
  - *EESC W4230 Crustal deformation*
  - *EESC W4300 Earth's deep interior*
  - *EESC W4330 Introduction to terrestrial paleoclimate*
  - *EESC W4701 Introduction to igneous petrology*
  - *EESC W4835 Wetlands and climate change*
  - *EESC W4886 Isotope hydrology*
  - *EESC W4887 Isotope geology, I*
  - *EESC W4888 Isotope geology, II*
  - *EESC W4837 Cenozoic paleoceanography*
  - *EESC W4941 Principles of geophysics*
  - *EESC W4947 Plate tectonics*
  - *EESC W4949 Introduction to seismology*
  - *EESC BC3019 Energy resources*
  - *EESC BC3025 Hydrology*
  - *EAE E2002 Alternative energy resources*
  - *EAE E3221 Environmental geophysics*

**RESEARCH/THESIS (6 POINTS):**

1. One of the following:

- Six- to eight-week summer field course
- *EESC BC3800* or *BC3801 Senior research seminar*, and *W3901 Environmental science senior seminar* (required of all majors)
- Students choosing the research seminar **MUST** take *Field mapping EESC W4076* as one of the advanced courses

Students may substitute two of the advanced earth science courses with other *EESC* courses or courses from other departments with the adviser's permission.

### **For a Concentration in Environmental Science**

A minimum of 25.5 points as follows:

#### **INTRODUCTORY ENVIRONMENTAL SCIENCE (13.5 POINTS):**

1. *EESC V2100 Earth's environmental systems: climate*
2. *EESC V2200 Earth's environmental systems: solid earth*
3. *EESC V2300 Earth's environmental systems: life*

#### **INTRODUCTORY SCIENCE (6 POINTS):**

1. Two courses in chemistry, physics, mathematics, or environmental biology from the introductory science list for the environmental science major.

#### **ADVANCED ENVIRONMENTAL SCIENCE (6 POINTS):**

1. Two of the following courses
  - *EESC W3015 The Earth's carbon cycle*
  - *EESC W4008 Introduction to atmospheric science*
  - *EESC W4223 Sedimentary geology*
  - *EESC W4550 Plant ecophysiology*
  - *EESC W4835 Wetlands and climate change*
  - *EESC W4885 The chemistry of continental waters*
  - *EESC W4917 Earth/human interactions*
  - *EESC W4926 Principles of chemical oceanography*
  - *EESC BC3017 Environmental data analysis*
  - *EESC BC3025 Hydrology*

Students may substitute advanced environmental science courses with other *EESC* courses, or courses from other departments with the adviser's permission.

### **For a Concentration in Earth Science**

A minimum of 25.5 points as follows

#### **INTRODUCTORY EARTH SCIENCE (8.5 POINTS):**

1. One of the following:
  - *EESC V1011 Introduction to earth sciences, I*
  - *EESC V2200 Earth's environmental systems: solid earth*
2. One of the following:
  - *EESC V2100 Earth's environmental systems: climate*
  - *EESC V2300 Earth's environmental systems: life*

#### **INTRODUCTORY SCIENCE (6 POINTS):**

1. Two courses in chemistry, physics, mathematics, or environmental biology from the introductory science list for the environmental science major.

#### **ADVANCED EARTH SCIENCE (11 POINTS):**

1. Three of the following courses (at least two must be 4 point courses):
  - *EESC W3010 Field geology*
  - *EESC W4090 Introduction to geochronology and thermochronology*
  - *EESC W4050 Global assessment and monitoring using remote sensing*
  - *EESC W4076 Geologic mapping*

- *EESC W4113 Introduction to mineralogy*
- *EESC W4223 Sedimentary geology*
- *EESC W4230 Crustal deformation*
- *EESC W4701 Introduction to igneous petrology*
- *EESC W4887 Isotope geology, I*
- *EESC W4941 Principles of geophysics*
- *EESC BC3019 Energy resources*
- *EESC BC3025 Hydrology*

### **Sustainable Development**

Students interested sustainable development should refer to the Sustainable Development section in this bulletin.

### **For a Special Concentration in Environmental Science for Environmental Biology Majors**

The Department of Earth and Environmental Sciences sponsors a special concentration which must be done in conjunction with the environmental biology major. Students should be aware that they must complete the environmental biology major in order to receive credit for the special concentration.

A minimum of 31.5 points is required as follows.

#### **INTRODUCTORY ENVIRONMENTAL SCIENCE (13.5 POINTS):**

1. *EESC V2100 Earth's environmental systems: climate*
2. *EESC V2200 Earth's environmental systems: solid earth*
3. *EESC V2300 Earth's environmental systems: life*

#### **INTRODUCTORY SCIENCE (6 POINTS):**

1. Two courses in chemistry, physics, mathematics, or environmental biology from the introductory science list for the environmental science major.

#### **ADVANCED ENVIRONMENTAL SCIENCE (12 POINTS):**

1. Four of the following courses:
  - *EESC W3015 The Earth's carbon cycle*
  - *EESC W4008 Introduction to atmospheric science*
  - *EESC W4050 Global assessment and monitoring using remote sensing*
  - *EESC W4223 Sedimentary geology*
  - *EESC W4550 Plant ecophysiology*
  - *EESC W4835 Wetlands and climate change*
  - *EESC W4885 The chemistry of continental waters*
  - *EESC W4917 Earth/human interactions*
  - *EESC W4926 Principles of chemical oceanography*
  - *EESC BC3017 Environmental data analysis*
  - *EESC BC3025 Hydrology*

Advanced courses used to fulfill requirements in the environmental biology major cannot count toward requirements for the special concentration.

### **For a Special Concentration in Environmental Biology for Environmental Science Majors**

The Department of Ecology, Evolution, and Environmental Biology sponsors a special concentration which must be done in conjunction with the environmental science major. Students should be aware that they must complete the environmental science major in order to receive credit for the special concentration.

39 points are required as follows.

**INTRODUCTORY ENVIRONMENTAL BIOLOGY AND ENVIRONMENTAL SCIENCE (17 POINTS):**

1. *EEEB W2001 Environmental biology, I: molecules to cells*
2. *EEEB W2002 Environmental biology, II: organisms to ecosystems* (equivalent to EESC V2300)
3. *EESC V2100 Earth's environmental systems: climate*
4. *EESC V2200 Earth's environmental systems: solid earth*

**INTRODUCTORY SCIENCE (13 POINTS):**

1. One of the following sequences:
  - *CHEM C1403 - C1404 General chemistry*
  - *CHEM C1604 Second semester general chemistry intensive and CHEM C2507 Intensive general chemistry laboratory*
2. One of the following:
  - *STAT V1111 Introduction to statistics* (without calculus)
  - *STAT V1211 Introduction to statistics* (with calculus)
  - *EEEB W3087 Conservation biology*

**ADVANCED ENVIRONMENTAL BIOLOGY (9 POINTS):**

1. Three additional advanced *EEEB* courses (3000 level and above), each chosen from a different curricular area (evolution/genetics, ecology/behavior/conservation, anatomy/physiology/diversity, biology laboratory courses).

Advanced courses used to fulfill requirements in the environmental science major cannot count toward requirements for the special concentration.



# East Asian Languages and Cultures

**Director of Undergraduate Studies:** Prof. David Lurie, 500A Kent; 854-5316;  
dbl11@columbia.edu

**Departmental Office:** 407 Kent; 854-5027

**URL:** <http://www.columbia.edu/cu/ealac/>

## Special Service Professors

William Theodore de Bary (John Mitchell  
Mason Professor and Provost Emeritus of  
the University)  
Donald Keene (Shincho Professor Emeritus)

## Professors

Paul Anderer  
Bernard Faure  
Carol Gluck (History)  
Jahyun Kim Haboush  
Robert E. Harrist Jr. (Art History)  
Robert Hymes (Chair)  
Dorothy Ko (Barnard History)  
Lydia Liu  
Haruo Shirane  
Tomi Suzuki  
Chun-Fang Yu  
Madeleine Zelin

## Associate Professors

Charles Armstrong (History)  
Lisbeth Kim Brandt  
Li Feng  
Matthew McKelway (Art History)  
Adam McKeown (History)  
Eugenia Lean  
David Lurie  
Rachel McDermott (Barnard)  
David Moerman (Barnard)  
Gregory Pflugfelder  
Jonathan Reynolds (Barnard Art History)  
Wei Shang  
Wendy Swartz  
Guobin Yang (Barnard)

## Assistant Professors

Wei hong Bao  
Michael Como (Religion)  
Hikari Hori  
Theodore Hughes  
Gray Tuttle

## Adjunct Professors

Robert Barnett  
David Branner  
Harry Harootunian  
Morris Rossabi  
Adam Smith

## Senior Scholars

Conrad Schirokauer  
Mason Gentzler

## Senior Lecturers

Lening Liu  
Fumiko Nazikian  
Miharu Nittono  
Carol Schulz  
Chih-ping Chang Sobelman

## Lecturers

Shigeru Eguchi  
Jian Guan  
Lingjun Hu  
James Lap  
Beom Lee  
Ningwei Ma  
Yuan-Yuan Meng  
Tenzin Norbu  
Keiko Okamoto  
Jisuk Park  
Shaoyan Qi  
Shinji Sato  
Zhongqi Shi  
Xiaoxi Tai  
Chiung-Shu Wang  
Feng Wang  
Hailong Wang  
Xiaodan Wang  
Zhirong Wang  
Eun Young Won  
Ling Yan  
Hyunkyū Yi

The program in East Asian studies offers a wide range of courses in a variety of disciplines, as well as training in the Chinese, Japanese, Korean, and Tibetan languages. The program is designed to provide a coherent curriculum for undergraduates wishing to major in East Asian studies, with disciplinary specialization in anthropology, art history, economics, history, literature, philosophy, political science, sociology, or religion. The department also offers a series of introductory and thematic courses especially designed for students seeking to acquire some knowledge of East Asia as part of their broader undergraduate experience.

## Admission to Language Courses

All students wishing to enter the language program at other than the first term of the elementary level must pass a language placement test before registering. The

language placement exams are held during the change of program period, the week before classes begin.

Students who have been absent from the campus for one term or more must take a placement test before enrolling in a language course beyond the first term of the elementary level.

Additional information can be accessed via the department Web site at <http://www.columbia.edu/cu/ealac/>.

### **Language Laboratory**

An additional hour of study in the language laboratory is required in elementary, second-year, and third-year Chinese, Japanese, and Korean. Students who plan to take *CHNS C1101-C1102*, *C1111-C1112*, *C1201-C1202*, *C1221-C1222*, or *W4003-W4004*; *JPNS C1101-C1102*, *C1201-C1202*, or *W4005-W4006*; and *KORN W1101-W1102*, *W1201-W1202*, or *W4005-W4006* must attend all assigned language laboratory sessions. Grades for written and oral work in the language laboratory and for additional work in oral drill sessions count as 25 percent of the final grade in the course. Assignments of laboratory hours are made during the first session of the regular classes.

### **Language Instruction**

Please see Admission to Language Courses for information on the language placement test and schedule. Students whose native language is not English are not required to take an additional foreign language if they have completed the secondary school requirement in the native language.

For more information on Chinese language courses please visit the Chinese Language Program Web site.

### **INTRODUCTORY CHINESE**

For beginners who wish to study Chinese at a slower pace. The entire course consists of two parts covering the same material as the first semester of *Elementary Chinese* (*CHNS C1101/F1101*). Students who have successfully completed the Courses I and II (*W1010-W1011*) will be admitted to *Elementary Chinese II* (*C1102/F1102*) in the spring semester. Alternatively, students who successfully complete Course I and choose to study in a summer or another program and upon passing the program placement test be placed into the Intermediate Chinese course.

### **ELEMENTARY CHINESE (LEVEL 1)**

**N-sections:** for students who have no or a limited background in Chinese.

**W-sections:** for students of Chinese heritage or advanced beginners with Mandarin speaking ability but minimal reading and writing skills

#### **Note:**

Advanced beginners or heritage students who can speak Mandarin will **not** be accepted into the N sections.

### **INTERMEDIATE CHINESE (LEVEL 2)**

**N-sections:** continuation of elementary N focusing on further development of listening, speaking, reading, and writing skills.

**W-sections:** continuation of elementary W focusing on reading skills and written language. Open to students of Chinese heritage or those with good speaking skills in Chinese only.

### **ADVANCED CHINESE I (LEVEL 3)**

**N-sections:** continuation of the intermediate N focusing on more sophisticated language usage and fluency as well as reading skills with systematic vocabulary expansion.

**W-sections:** continuation of intermediate W focusing on practical writing skills and semi-formal or formal style of Chinese used in various professional settings. Open to students with good speaking skills in Chinese only.

#### **OTHER ADVANCED COURSES (LEVEL 4)**

Please see the courses listed on-line.

#### **Course Numbering**

The following are general guidelines to the numbering of department courses open to undergraduates, although not all courses conform to them. Students with questions about the nature of a course should consult with the instructor or the director of undergraduate studies.

- *1000* level: First- and second-year language courses
- *2000* level: Broad introductory undergraduate courses
- *3000* level: Intermediate and advanced undergraduate lectures and seminars
- *4000* level: Third- and fourth-year language courses, and advanced undergraduate seminars, which may be open to graduate students
- *5000* level: Fifth-year language courses

#### **Study Abroad**

East Asian Studies majors or thesis-track concentrators who plan to spend their junior spring abroad must take the required disciplinary and senior-thesis-related courses in the spring of their sophomore year. Contact the Director of Undergraduate Studies for details.

#### **THE KYOTO CENTER FOR JAPANESE STUDIES**

The Kyoto Center offers Columbia students the opportunity of study in Japan in a program combining intensive instruction in the Japanese language with courses taught in English on a wide range of topics in Japanese studies. Students should have at least the equivalent of two years of Japanese by the time of their departure. The program is most appropriate for the junior year, though other arrangements are considered. East Asian Studies majors or thesis-track concentrators who opt to spend their junior spring at the Kyoto Center must take the required disciplinary and senior-thesis-related courses in the spring of their *sophomore* year (contact the director of undergraduate studies for details). For further information about the Kyoto Center, consult Prof. Henry Smith, 407 Kent; (212) 854-5027; [hds2@columbia.edu](mailto:hds2@columbia.edu).

#### **Grading**

Courses in which the grade of D or P has been received do not count toward the major or concentration requirements.

#### **Departmental Honors**

Departmental honors are conferred only on East Asian Studies majors who have earned a grade point average of at least 3.6 for courses in the major, have pursued a rigorous and ambitious program of study, and have submitted senior theses of superior quality, clearly demonstrating originality and excellent scholarship. Qualified seniors are nominated by their thesis advisers. Normally no more than 10 percent of the graduating majors in the department each year receive departmental honors. Concentrators are not eligible for departmental honors.

#### **DEGREE REQUIREMENTS**

##### **For a Major in East Asian Studies**

##### **LANGUAGE REQUIREMENT:**

Three years of Chinese, Japanese, Korean, or Tibetan (completion of the *W4005-W4006* level in Chinese, Japanese, or Korean; *TIBT G4611-G4612* level in Tibetan), or the proficiency equivalent (to be demonstrated by placement

examination). Students who reach the required proficiency level before their senior year are encouraged to continue language study.

### INTRODUCTORY COURSES:

Three courses (12 points): *AHUM V3400* (4 points) and any two of the following four 4-point survey courses: *ASCE V2359*, *ASCE V2361*, *ASCE V2363*, *ASCE V2365*.

First-year students and sophomores, prior to declaring an East Asian studies major, are strongly urged to take one or more of the introductory courses, as well as to begin their chosen East Asian language.

### DISCIPLINARY SPECIALTY:

On entering the major each student must choose an academic discipline from among the following: history, literature, anthropology, art history, economics, philosophy, political science, religion, or sociology. Depending on the chosen discipline, each student must complete a specific number of disciplinary courses. Normally, one of these courses is a basic introductory or methodology course, and the others are more specialized East Asia-related courses in the chosen discipline. Courses in closely related disciplines may be substituted with the approval of the director of undergraduate studies. Course requirements by disciplinary specialty are as follows:

1. *History*. Students must take *HSEA W4890* in the spring term of the junior year, and two other courses on East Asia-related historical topics.
2. *Literature*. Students must take *CLEA W4101* in the spring term of the junior year, and two other courses on East Asia-related literary topics
3. *Art History, Philosophy, Religion*. Students take an introductory theory or method course from the corresponding department, and two courses on East Asia-related topics in the chosen discipline.
4. *Anthropology, Sociology*. Students must take *EAAS W4102* in the spring term of the junior year, and two other courses on East Asia-related topics in the chosen discipline.
5. *Political Science, Economics*. Students must take *EAAS W4102* in the spring term of the junior year, and three other courses on East Asia-related topics in the chosen discipline.

### ELECTIVE COURSES:

For students specializing in history, literature, anthropology, art history, philosophy, religion, or sociology, two courses. For students specializing in economics or political science, one course. Courses are to be chosen in consultation with the director of undergraduate studies. East Asia-related courses offered in other departments may be counted toward the elective requirement. Courses in a second East Asian language (one year minimum) or a classical East Asian language (one semester minimum) may be used to fulfill one of the two elective requirements, but placement examinations may not be used to do so.

### SENIOR THESIS:

One course (4 points). Each student in the major is expected to prepare a research paper. The paper should be in the chosen disciplinary field and is written in consultation with an appropriate faculty adviser, who is responsible for the final grade. The thesis must be about 30 to 50 pages in length. The paper is prepared in two stages, first by enrolling in the spring term of the junior year in *EAAS V3999*, in which research methods are introduced and a paper topic chosen. In the senior year, each major enrolls in *EAAS W3901* (3 pts) in the fall term to complete the thesis.

East Asian Studies majors or thesis-track concentrators who opt to spend their junior spring abroad must take the required disciplinary and senior-thesis-related courses in the spring of their *sophomore* year (contact the director of undergraduate studies for details).

**For a Concentration in East Asian Studies**

Students may choose between two tracks for the concentration in East Asian studies. 1) For the **Thesis Track**, requirements are identical to those for the major, except that there is no East Asian language requirement. 2) For the **Language Track**, requirements are identical to those for the major, except that there is no senior thesis (students do not take *EAAS V3999* and *EAAS W3901*). For this track, placement examinations may not be used to fulfill the required three years of language study; students with prior proficiency in an East Asian language who opt for the language track of the concentration in East Asian Studies must fulfill the language requirement by studying a second East Asian language.

# Ecology, Evolution, and Environmental Biology

**Director of Undergraduate Studies:** Matthew Palmer, 1010 Schermerhorn; 854-4767; mp2434@columbia.edu

**Evolutionary Biology of the Human Species Adviser:** Jill Shapiro, 1011 Schermerhorn Ext; 854-5819; jss19@columbia.edu

**Academic Department Administrator:** Lourdes A. Gautier, 1014B Schermerhorn Extension; 854-8665; lg2019@columbia.edu

**Departmental Office:** 10th Floor Schermerhorn Extension; 854-9987

**URL:** <http://www.columbia.edu/cu/e3b/>

## Professors

Philip Ammirato (Barnard)  
Walter Bock (Biological Sciences)  
Joel Cohen (School of International and Public Affairs)  
Marina Cords (also Anthropology)  
Ruth DeFries  
Paul Hertz (Barnard)  
Ralph Holloway (Anthropology)  
Darcy Kelley (Biological Sciences)  
Don Melnick (also Anthropology and Biological Sciences)  
Shahid Naeem  
Paul Olsen (Earth and Environmental Sciences)  
Jeanne Poindexter (Barnard)  
Robert Pollack (Biological Sciences)

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## Assistant Professors

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John Glendinning (Barnard)  
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Paige West (Barnard)

## Lecturers

Fabio Corsi  
Matthew Palmer  
Jill Shapiro

## Adjunct Faculty/Research Scientists COLUMBIA UNIVERSITY

James Gibbs (Center for Environmental Research and Conservation)  
Juan Carlos Morales (Center for Environmental Research and Conservation)  
Cheryl Palm (Earth Institute at Columbia University)  
Dorothy Peteet (Lamont-Doherty)  
Miguel Pinedo-Vásquez (Center for Environmental Research and Conservation)  
Pedro Antonio Sanchez (Earth Institute at Columbia University)  
William Schuster (Center for Environmental Research and Conservation)

## AMERICAN MUSEUM OF NATURAL HISTORY

Norah Bynum  
James Carpenter  
Joel Cracraft  
Rob DeSalle  
Darrel Frost  
Rosemarie Gnam  
David Grimaldi  
Jeffrey Groth  
Ian Harrison  
Ross MacPhee  
Michael Novace  
Norman Platnick  
Christopher Raxworthy  
Robert Rockwell  
Scott Schaeffer  
Randall Schuh  
Mark Siddall  
Nancy Simmons  
John Steven Sparks  
Sacha Spector  
Eleanor Sterling  
Melanie Stiassny  
Robert Voss  
Ward Wheeler

## THE NEW YORK BOTANICAL GARDEN

Michael Balick  
Brian Boom  
Kenneth Cameron  
Roy Halling  
Scott Mori  
Timothy Motley  
Christine Padoch  
Charles Peters  
Dennis Stevenson  
William Wayt Thomas

## WILDLIFE CONSERVATION SOCIETY

George Amato  
Andrew Baker  
Joshua Ginsberg  
Scott Newman  
Kent Redford  
Diana Reiss  
John Robinson  
Howard Rosenbaum  
Eric Sanderson  
Christine Sheppard  
Scott Silver  
John Thorbjarnarson  
Dan Wharton

**WILDLIFE TRUST**

Alonso Aguirre  
 Peter Daszak  
 Susan Elbin  
 Ernesto Enkerlin Hoefflich  
 Auston Marmaduke Kilpatrick  
 Rodrigo Medellín  
 Claudio Padua  
 Mary Pearl

The Department of Ecology, Evolution, and Environmental Biology (E3B) was established in 2001 as a result of a multi-institutional collaboration through the Center for Environmental Research and Conservation (CERC). CERC is a consortium of five New York City-based science and research institutions: Columbia University, the American Museum of Natural History, The New York Botanical Garden, the Wildlife Conservation Society, and Wildlife Trust. In creating E3B, the University and the consortium partners held that the fields of ecology, organismal evolution, population biology, and environmental biology constitute a distinct subdivision of the biological sciences with its own set of intellectual foci, theoretical foundations, scales of analysis, and experimental designs and methodologies.

E3B's mission is to educate a new generation of scientists and practitioners in the theory and methods of ecology, evolution, and population biology. The department's educational programs emphasize a multi-disciplinary perspective on the earth's declining biodiversity, integrating understanding from relevant fields in biology with insights from related fields in the social sciences. Though its administrative staff, core faculty, and headquarters are based at Columbia University, the department's academic staff is also based at the other partner institutions in the CERC consortium. Through the auspices of this consortium, the department is able to tap into a broad array of scientific and intellectual resources in the greater New York City area.

In close coordination with the consortium, E3B has assembled a research and training faculty of over 90 members from the five partner institutions. This academic staff covers the areas of plant and animal systematics, evolutionary and population genetics, demography and population biology, behavioral and community ecology; and related fields of epidemiology, ethnobotany, ethnobiology, public health, and environmental policy. Harnessing the expertise of these major research institutions, E3B covers a vast area of inquiry into the evolutionary, genetic, and ecological relationships among all living things.

**Facilities****THE DEPARTMENT OF ECOLOGY, EVOLUTION, AND ENVIRONMENTAL BIOLOGY (E3B) AND THE CENTER FOR ENVIRONMENTAL RESEARCH AND CONSERVATION (CERC)**

The Center for Environmental Research and Conservation (CERC) was founded in 1995 as a consortium of five New York City science and education institutions to address the challenges of conserving the earth's biological diversity in the face of rapid global change. The five CERC partners are: the American Museum of Natural History (AMNH), Columbia University (CU), the New York Botanical Garden (NYBG), Wildlife Conservation Society (WCS), and Wildlife Trust (WT). These institutions collectively comprise a staff of scientists and a range of biodiversity-related research that is unequalled anywhere in the world.

The underlying principle of CERC's unique partnership is that the scope and complexity of the environmental conservation challenge demand an interdisciplinary approach that cannot be addressed by any single institution. CERC, therefore, brings together scientists from diverse natural and social science backgrounds to apply their intellectual resources to a diverse set of education, professional development, and research programs which form the core of CERC's programmatic activities.

CERC and E3B share office space and administrative facilities, as well as scientific and faculty resources. Both are housed in a 15,000 square-foot space on Columbia University's Morningside Heights campus that includes: administrative and faculty offices, wet and dry labs, and seminar and lecture rooms.

While most of the degree program activities are based on campus, the true strength of E3B's programs is realized through the staff expertise, laboratories, collections, field sites, and research initiatives of all five CERC member institutions.

In addition to the off-campus CERC facilities, the Columbia community offers academic excellence in a range of natural and social science disciplines that are directly related to biodiversity conservation including: evolution, systematics, genetics, behavioral ecology, public health, business, economics, political science, anthropology, and public and international policy. These disciplines are embodied in world-class departments, schools, and facilities at Columbia. The divisions that bring their resources to bear on issues most relevant to E3B's mission are: the Lamont-Doherty Earth Observatory, the School of International and Public Affairs, the Goddard Institute for Space Studies, the International Research Institute for Climate Predication, the Black Rock Forest Reserve in New York State, the Rosenthal Center for Alternative/Complementary Medicine, the Division of Environmental Health Sciences at the School of Public Health, and the Center for International Earth Science Information Network (CIESIN). Several of these units of the University are networked through the Earth Institute at Columbia, a division of the University that acts as an intramural network of environmental programs and supplies logistical support for constituent programs, through planning, research, seminars, and conferences. All of the above schools, centers, and institutes contribute to finding solutions for the world's environmental challenges.

### **AMERICAN MUSEUM OF NATURAL HISTORY**

The American Museum of Natural History is one of the world's preeminent scientific, educational, and cultural institutions. Since its founding in 1869, the Museum has advanced its global mission to discover, interpret, and disseminate information about human cultures, the natural world, and the universe through a wide-reaching program of scientific research, education, and exhibitions. The institution comprises 45 permanent exhibition halls, state-of-the-art research laboratories, one of the largest natural history libraries in the Western Hemisphere, and a permanent collection of 32 million specimens and cultural artifacts. With a scientific staff of more than 200, the Museum supports research divisions in anthropology, paleontology, invertebrate and vertebrate zoology, and the physical sciences. The Museum's scientific staff pursues a broad agenda of advanced scientific research, investigating the origins and evolution of life on earth, the world's myriad species, the rich variety of human culture, and the complex processes that have formed and continue to shape planet Earth and the universe beyond.

The Museum's Center for Biodiversity and Conservation (CBC) was created in June 1993 to advance the use of scientific data to mitigate threats to biodiversity. CBC programs integrate research, education, and outreach so that people, a key force in the rapid loss of biodiversity, will become participants in its conservation. The CBC works with partners throughout the world to build professional and institutional capacities for biodiversity conservation and heightens public understanding and stewardship of biodiversity. CBC projects are under way in the Bahamas, Bolivia, Madagascar, Mexico, Vietnam, and the Metropolitan New York region.

The Museum's scientific facilities include: two molecular systematics laboratories equipped with modern high-throughput technology; the interdepartmental laboratories, which include a state-of-the-art imaging facility that provides analytical microscopy, energy dispersive spectrometry, science visualization, and image analysis to support the Museum's scientific activities; a powerful parallel-computing facility, including a cluster of the world's fastest computers, positioned to make significant contributions to bioinformatics; and a frozen tissue facility with the capacity to store one million DNA samples.

### **NEW YORK BOTANICAL GARDEN**

The New York Botanical Garden (NYBG), with its 7 million specimen herbarium, the largest in the Western Hemisphere, and its LuEsther T. Mertz Library, the largest botanical and horticultural reference collection on a single site in the Americas, comprises one of the very best locations in the world to study plant science. NYBG's systematic botanists discover, decipher, and describe the world's plant and fungal



diversity, and its economic botanists study the varied links between plants and people. The Enid A. Haupt Conservatory, the largest Victorian glasshouse in the United States, features some 6,000 species in a newly installed “Plants of the World” exhibit. The new International Plant Science Center stores the Garden collection under state-of-the-art environmental conditions and has nine study rooms for visiting scholars. All specimens are available for on-site study or loan.

In recent years, NYBG has endeavored to grow and expand its research efforts, supporting international field projects in some two dozen different countries, ranging from Brazil to Indonesia. In 1994, AMNH and NYBG established the Lewis and Dorothy Cullman Program for Molecular Systematics Studies to promote the use of molecular techniques in phylogenetic studies of plant groups. This program offers many opportunities for research in conservation genetics. NYBG operates both the Institute for Economic Botany (IEB) and the Institute of Systematic Botany (ISB). The ISB builds on the Garden’s long tradition of intensive and distinguished research in systematic botany—the study of the kinds and diversity of plants and their relationships—to develop the knowledge and means for responding effectively to the biodiversity crisis.

The Garden has also established a molecular and anatomical laboratory program, which includes light and electron microscopes, and has made enormous advances in digitizing its collection. There is currently a searchable on-line library catalog and specimen database collection with some half million unique records. Field sites around the world provide numerous opportunities for work in important ecosystems of unique biodiversity.

## **WILDLIFE CONSERVATION SOCIETY**

The Wildlife Conservation Society (WCS), founded in 1895 as the New York Zoological Society, works to save wildlife and wild lands throughout the world. In addition to supporting the nation’s largest system of zoological facilities—the Bronx Zoo; the New York Aquarium; the Wildlife Centers in Central Park, Prospect Park, and Flushing Meadow Park; and the Wildlife Survival Center on St. Catherine’s Island, Georgia—WCS maintains a commitment to field-based conservation science. With 60 staff scientists and more than 100 research fellows, WCS has the largest professional field staff of any U.S.-based international conservation organization. Currently, WCS conducts nearly 300 field projects throughout the Americas, Asia, and Africa. The field program is supported by a staff of conservation scientists based in New York who also conduct their own research.

WCS’s field-based programs complement the organization’s expertise in veterinary medicine, captive breeding, animal care, genetics, and landscape ecology, most of which are based at the Bronx Zoo headquarters. WCS’s Conservation Genetics program places an emphasis on a rigorous, logical foundation for the scientific paradigms used in conservation biology and is linked to a joint Conservation Genetics program with the American Museum of Natural History. The Wildlife Health Sciences division is responsible for the health care of more than 17,000 wild animals in the five New York parks and wildlife centers. The departments of Clinical Care, Pathology, Nutrition, and Field Veterinary Programs provide the highest quality of care to wildlife.

## **WILDLIFE TRUST**

For nearly three decades Wildlife Trust (WT) has been an international leader in species conservation research, environmental education, and professional training of conservation scientists. WT seeks to save endangered species from extinction through creative and interdisciplinary small-scale projects in collaboration with local scientists and educators. Working primarily in areas where there are human pressures, human-wildlife conflicts, and where there are highly diverse or unique ecosystems, WT trains local conservation professionals. Wildlife Trust’s principal resources are its field-based project leaders—local scientists and educators who excel at interdisciplinary conservation activities and communicate effectively with local people of diverse backgrounds.

In 1996, Wildlife Trust established an International Field Veterinary Program that has helped define the new discipline of conservation medicine. It currently co-

manages the Center for Conservation Medicine. Wildlife Trust's 2003–2004 programs support more than sixty projects from eighteen countries. Each project is unique, but all share the ultimate goal of saving wild species and their habitats through applied wildlife science, conservation medicine, environmental education, and professional training. WT carries out global projects in North America, Central America, the Caribbean, South America, Africa, and Asia.

### Academic Programs

The Department of Ecology, Evolution, and Environmental Biology runs two undergraduate majors/concentrations. The primary major is in environmental biology and the second is evolutionary biology of the human species. The foci and requirements vary substantially and are intended for students with different academic interests.

The environmental biology major emphasizes those areas of biology and other disciplines essential for students who intend to pursue careers in the conservation of earth's living resources. It is designed to prepare students for graduate study in ecology and evolutionary biology, conservation biology, environmental policy and related areas, or for direct entry into conservation-related or science teaching careers.

Interdisciplinary knowledge is paramount to solving environmental biology issues, and a wide breadth of courses is thus essential, as is exposure to current work. Conservation internships are available through CERC and serve as research experience leading to the development of the required senior thesis.

Declaration of the environmental biology major must be approved by the director of undergraduate studies and filed in the departmental office, 10th floor Schermerhorn Extension.

The major in evolutionary biology of the human species provides students with a foundation in the interrelated spheres of behavior, ecology, genetics, evolution, morphology, patterns of growth, adaptation, and forensics. Using the framework of evolution and with attention to the interplay between biology and culture, research in these areas is applied to our own species and to our closest relatives to understand who we are and where we came from. This integrated biological study of the human species is also known as biological anthropology. As an interdisciplinary major students are also encouraged to draw on courses in related fields including biology, anthropology, geology, and psychology as part of their studies.

### DEGREE REQUIREMENTS

#### Regulations for all Ecology, Evolution, and Environmental Biology Majors and Concentrators

The grade of D is not accepted for any course offered in fulfillment of the requirements toward the majors or concentrations.

#### For a Major in Environmental Biology

The major in environmental biology requires 50 points distributed as described below.

#### LOWER DIVISION COURSES:

1. Two terms of introductory or environmental biology. *EEEE W2001-W2002* recommended.
2. Two terms of environmental science. *EESC V2100* and *EESC V2200* recommended.
3. Two terms of chemistry. *CHEM C1403-C1404* recommended.
4. One term of physics. *PHYS V1201* or higher.
5. One term of statistics. *STAT W1111*, *STAT W1211*, *BIOL BC2286* or *EEEE W3020* recommended.
6. One term of calculus. *MATH V1101*, *MATH V1102*, *MATH V1201*, or *MATH V1202* recommended.

**UPPER DIVISION COURSES:**

Students must complete five advanced elective courses (generally 3000-level or above) satisfying the following distribution. At least one of these courses must include a laboratory component. For more information and a list of appropriate courses, contact the director of undergraduate studies.

1. Ecology, behavior, or conservation biology
2. Evolution or genetics
3. Morphology, physiology, or diversity
4. Policy or economics
5. One additional course from the preceding four groups

Students must also complete a senior thesis, which involves completing a research internship (generally in the summer before the senior year) and completing at least one semester of the thesis research seminar, *EEEB W3991-W3992*. Enrollment in both semesters of the seminar, starting in the spring of the junior year is recommended.

Students planning on continuing into graduate studies in environmental biology or related fields are encouraged to take organic chemistry and genetics.

**For the Ecology and Evolution Track within the Environmental Biology Major**

The ecology and evolution track within the environmental biology major requires 50 points distributed as described below.

**LOWER DIVISION COURSES:**

1. Two terms of introductory or environmental biology. *EEEB W2001-W2002* recommended.
2. Two terms of chemistry. *CHEM C1403-C1404* recommended.
3. Chemistry laboratory. *CHEM C1500* recommended
4. Two terms of physics. *PHYS V1201-V1202* recommended
5. One term of statistics. *STAT W1111, STAT W1211, BIOL BC2286* or *EEEB W3020* recommended.
6. Two terms of calculus, or one term of calculus and second advanced course in math or statistics. *MATH V1101, MATH V1102, MATH V1201, or MATH V1202* recommended.

**UPPER DIVISION COURSES:**

Students must complete five advanced elective courses (generally 3000-level or above) satisfying the following distribution. At least one of these courses must include a laboratory component. For more information and a list of appropriate courses, contact the director of undergraduate studies.

1. Three courses in ecology, evolution, conservation biology, or behavior.
2. One course in genetics. *BIOL W3031* or *BIOL BC 2100* recommended.
3. One course in morphology, physiology, or diversity.

Students must also complete a senior thesis, which involves completing a research internship (generally in the summer before the senior year) and completing at least one semester of the thesis research seminar, *EEEB W3991-W3992*. Enrollment in both semesters of the seminar, starting in the spring of the junior year is recommended.

Students planning on continuing into graduate studies in ecology or evolutionary biology are encouraged to take organic chemistry.

**For a Major in Evolutionary Biology of the Human Species**

The major requires 36 points distributed as described below. Students must take a minimum of 20 points from *EEEB* or *ANEB* biological anthropology courses. The additional courses may be taken in other departments with adviser approval. Please

speak with the major adviser about the extended list of courses from related areas including archeology; anthropology; biology; biomedical engineering; ecology, evolution and environmental biology; earth and environmental science; and psychology that may be acceptable. For example, students interested in focusing on paleoanthropology would complement the requirements with courses focusing on the specifics of human evolution and morphology, evolutionary biology and theory, geology, systematics, and statistics.

#### **INTRODUCTORY COURSES:**

1. *EEEE V1010*
2. *EEEE V1011* or *EEEE W2002* and *EEEE W3011*

#### **ADVANCED COURSES:**

1. *EEEE W3087* (Alternatively, students may participate in SEE-U in Brazil or the Dominican Republic in fulfillment of this course requirement.)

#### **THEORETICAL FOUNDATION FROM RELATED FIELDS:**

One course from each subset below.

1. Cultural anthropology
  - *ANTH V1002*
  - *ANTH V2004*
  - *ANTH V3041*
2. Archaeology
  - *ANTH V3280*
  - *ARCH W3002*
  - *ANTH V1007*

#### **BREADTH REQUIREMENT:**

Minimum of 9 points, four of which may count toward the seminar requirement:

1. Genetics/human variation
  - *EEEE W4020*
  - *BIOL W3031*, *BIOL C3032* or *BIOL BC3200*
  - *ANEB V3970*
  - *EEEE W4700*
2. Primate behavioral biology and ecology
  - *EEEE V3940*
  - *BIOL BC3280*
  - *PSYC W3540*
  - *PSYC BC1119*
3. Human evolution/morphology
  - *ANEB G4147-EEEE G4148*
  - *ANEBW3208*
  - *ANEBW4200*
  - *EEEEW3204*
  - *BIOLW3030*
  - *BIOLBC3260*
  - *BIOLW3002*
  - *EEEEW3006*
  - *EEEEW3215*

Additional courses in student's area of focus to complete the required minimum of 20 points of *EEEE* or *ANEB* biological anthropology courses.

#### **SEMINAR:**

At least one of the following 4-point seminars which may also count toward the breadth requirement.

1. *EEEB V3940*
2. *ANEB G4002*
3. *ANEB V3970*

It is strongly suggested that students intending to pursue graduate study in this field broaden their foundation by taking an introductory biology course (optimally *EEEB W2001*), a 3000-level genetics course, and a quantitative methods course. The adviser makes additional recommendations dependent on the student's area of focus.

### **For a Concentration in Environmental Biology**

The concentration differs from the major in omitting calculus and physics from the lower division, requiring three advanced electives rather than five, and omitting the senior seminar with thesis project. It requires 35 points, distributed as described below.

1. *EEEB W2001* and *EEEB W2002* (or equivalents)
2. *EESC V2100* and *EESC V2200*
3. One of the following sequences
  - *CHEM C1403* and *CHEM C1404*
  - *CHEM C2407* and *CHEM C2507*
4. *STAT V1111*, *STAT V1211* or *BIOL BC3386*
5. *EEEB W3087*
6. Two other 3000- or 4000-level courses from the advanced environmental biology courses listed for the major

### **For a Concentration in Evolutionary Biology of the Human Species**

The concentration requires 20 points including the required courses *EEEB V1010*, *EEEB V1011*, *EEEB W3087* and three courses for the biological anthropology breadth distribution requirements as described for the major. Students must take a minimum of 15 points from *EEEB* or *ANEB* biological anthropology courses as described for the major. The additional courses may be taken in other departments with adviser's approval.

Concentrators do not have to complete the theoretical foundation courses from cultural anthropology/archeology or a seminar though the latter is recommended.

1. Paleoanthropology and Morphology
  - *EEEB V1010*
  - *ANEB W4200*
  - *ANEB V3204*
  - *ANEB G4002*
  - *ANEB G4146*
  - *ANEB G4147*
  - *ANEB G4148*
  - *EEEB W3215*
2. Primate Behavioral Ecology and Evolution
  - *EEEB V1011*
  - *EEEB W3940*
  - *EEEB W3030*
  - *EEEB W3208*
3. Human Variation
  - *EEEB G4020*
  - *ANEB V3970*
  - *EEEB W4700*
4. Miscellaneous
  - *ANEB G4001*

### **For a Special Concentration in Environmental Science for Environmental Biology Majors**

The Department of Earth and Environmental Sciences sponsors a special concentration which must be done in conjunction with the environmental biology

major. Students should be aware that they must complete the environmental biology major in order to receive credit for the special concentration.

A minimum of 31.5 points is required as follows.

**INTRODUCTORY ENVIRONMENTAL SCIENCE (13.5 POINTS):**

1. *EESC V2100 Earth's environmental systems: climate*
2. *EESC V2200 Earth's environmental systems: solid earth*
3. *EESC V2300 Earth's environmental systems: life*

**INTRODUCTORY SCIENCE (6 POINTS):**

1. Two courses in chemistry, physics, mathematics, or environmental biology from the introductory science list for the environmental science major.

**ADVANCED ENVIRONMENTAL SCIENCE (12 POINTS):**

1. Four of the following courses:
  - *EESC W3015 The Earth's carbon cycle*
  - *EESC W4008 Introduction to atmospheric science*
  - *EESC W4050 Global assessment and monitoring using remote sensing*
  - *EESC W4223 Sedimentary geology*
  - *EESC W4550 Plant ecophysiology*
  - *EESC W4835 Wetlands and climate change*
  - *EESC W4885 The chemistry of continental waters*
  - *EESC W4917 Earth/human interactions*
  - *EESC W4926 Principles of chemical oceanography*
  - *EESC BC3017 Environmental data analysis*
  - *EESC BC3025 Hydrology*

Advanced courses used to fulfill requirements in the environmental biology major cannot count toward requirements for the special concentration.

**For a Special Concentration in Environmental Biology for Environmental Science Majors**

The Department of Ecology, Evolution, and Environmental Biology sponsors a special concentration which must be done in conjunction with the environmental science major. Students should be aware that they must complete the environmental science major in order to receive credit for the special concentration.

39 points are required as follows.

**INTRODUCTORY ENVIRONMENTAL BIOLOGY AND ENVIRONMENTAL SCIENCE (17 POINTS):**

1. *EEEB W2001 Environmental biology, I: molecules to cells*
2. *EEEB W2002 Environmental biology, II: organisms to ecosystems (equivalent to EESC V2300)*
3. *EESC V2100 Earth's environmental systems: climate*
4. *EESC V2200 Earth's environmental systems: solid earth*

**INTRODUCTORY SCIENCE (13 POINTS):**

1. One of the following sequences:
  - *CHEM C1403 - C1404 General chemistry*
  - *CHEM C1604 Second semester general chemistry (intensive) and CHEM C2507 Intensive general chemistry laboratory*
2. One of the following:
  - *STAT V1111 Introduction to statistics (without calculus)*
  - *STAT V1211 Introduction to statistics (with calculus)*
  - *EEEB W3087 Conservation biology*

**ADVANCED ENVIRONMENTAL BIOLOGY (9 POINTS):**

1. Three additional advanced *EEEB* courses (3000 level and above), each chosen from a different curricular area (evolution/genetics, ecology/behavior/conservation, anatomy/physiology/diversity, biology laboratory courses).

Advanced courses used to fulfill requirements in the environmental science major cannot count toward requirements for the special concentration.

# Economics

**Director of Undergraduate Studies:** Dr. Susan Elmes, 1006 International Affairs Building; 854-9124; [se5@columbia.edu](mailto:se5@columbia.edu)

**Director of Departmental Honors Program:** Dr. Susan Elmes, 1006 International Affairs Building; 854-9124; [se5@columbia.edu](mailto:se5@columbia.edu)

**Departmental Advisers:** For a list of Economics Department advisers for the major, concentration, and interdepartmental majors please see the department Web site

**Departmental Office:** 1022 International Affairs Building (IAB); 854-3680

**URL:** <http://www.columbia.edu/cu/economics/>

## Professors

Marcellus Andrews (Barnard)  
 Jushan Bai  
 Jagdish N. Bhagwati  
 Patrick Bolton (also Business School)  
 André Burgstaller (Barnard)  
 Alessandra Casella  
 Yeon-Koo Che  
 Pierre-André Chiappori  
 Graciela Chichilnisky  
 Richard Clarida  
 Janet Currie  
 Donald Davis  
 Padma Desai  
 Phoebus J. Dhrymes  
 Prajit Dutta  
 Ronald E. Findlay  
 Glenn Hubbard (also Business School)  
 W. Bentley McLeod (also School of International and Public Affairs)  
 Perry Mehrling (Barnard)  
 Marcelo Moreira  
 Massimo Morelli (also Political Science)  
 Robert Mundell  
 Serena Ng  
 Brendan O'Flaherty  
 Edmund S. Phelps  
 Ricardo Reis  
 Michael Riordan (chair)  
 Jeffrey Sachs (also Earth Institute)  
 Xavier Sala-i-Martin  
 Bernard Salanié  
 Stephanie Schmitt-Grohé  
 Rajiv Sethi (Barnard)  
 Joseph Stiglitz (also Business School)  
 Martin Uribe  
 David Weiman (Barnard)  
 David Weinstein  
 Michael Woodford

## Associate Professors

Stefania Albanesi  
 Douglas Almond (also School of International and Public Affairs)  
 Lena Edlund

## Associate Professors (continued)

Katherine Ho  
 Narvin Kartik  
 Wojciech Kopczuk (also School of International and Public Affairs)  
 Emi Nakamura  
 Cristian Pop-Eleches (also School of International and Public Affairs)  
 Bruce Preston  
 Wolfram Schlenker (also School of International and Public Affairs)  
 Jon Steinsson  
 Miguel Urquiola (also School of International and Public Affairs)  
 Eric Verhoogen (also School of International and Public Affairs)  
 Till von Wachter

## Assistant Professors

Christopher Conlon  
 Dennis Kristensen  
 Jaromir Nosal  
 Jonathan Vogel

## Lecturers

Sally Davidson  
 Susan Elmes  
 Sunil Gulati  
 Caterina Musatti

## Adjunct Faculty

Seyhan Arkonac  
 Nuria Quella  
 Carl Riskin  
 Argia Sbordone

## On Leave

Profs. Almond, Bolton, Kartik, Kristensen, MacLeod, Nosal, Reis, and Woodford for the academic year  
 Profs. Clarida, Desai, Dutta, and Ng for the fall semester  
 Profs. Che, Davis, Edlund, Kopczuk, Phelps, and Sala-i-Martin for the spring semester

Economics is the study of the ways in which society allocates its scarce resources among alternative uses and the consequences of these decisions. The areas of inquiry deal with a varied range of topics such as international trade, domestic and international financial systems, labor market analysis, and the study of less developed economies. Broadly speaking, the goal of an economics major is to train students to think analytically about social issues, and as such provide a solid foundation for not



only further study and careers in economics, but also for careers in law, public service, business, and related fields.

The Economics Department offers a general economics major in addition to five interdisciplinary majors structured to suit the interests and professional goals of a heterogeneous student body. All of these programs have different specific requirements but share the common structure of core theoretical courses that provide the foundation for higher-level elective courses culminating in a senior seminar. Students are urged to carefully look through the details of each of these programs and to contact an appropriate departmental adviser to discuss their particular interests.

### Advanced Placement

Tests must be taken in **both** microeconomics and macroeconomics, with a score of 5 on one test and at least a 4 on the other. Provided that this is achieved, the department grants 4 credits for a score of 4 and 5 on the AP Economics exam along with exemption from *ECON W1105*.

### Departmental Honors

Economics majors and economics joint majors who wish to be considered for departmental honors in economics must:

1. have at least a 3.7 GPA in their major courses
2. take *ECON W4999 Honors thesis workshop* (a one-year course)
3. receive at least a grade of A- in *ECON W4999*.

Students must consult and obtain the approval of the departmental undergraduate director in order to be admitted to the workshop. Please note that *ECON W4999* may be taken to fulfill the **seminar requirement** for the economics major and all economics joint majors. Students who wish to write a senior thesis (*W4999*) must have completed the core major requirements and speak with the director of undergraduate studies in the spring semester of their junior year. Please see the departmental honors section in the department FAQ page for more information.

### Undergraduate Prizes

All prize recipients are announced at the end of the spring semester each academic year.

#### SANFORD S. PARKER PRIZE

Established in 1980, this prize is awarded annually to a Columbia College graduating student who majored or concentrated in economics and plans on continuing his or her studies in an economics Ph.D. program within the two years following his or her graduation.

#### ROMINE PRIZE

Established in 1997, this prize is awarded annually to two students (Columbia College or General Studies) majoring in economics: one for the best honors thesis paper, and the other for the best economics seminar paper.

### On-Line Information

Students can access current and useful information on-line that includes: a comprehensive FAQ page; requirement changes to the major and concentration; sample programs and checklists; faculty office hours, contact information and fields of specialization; adviser information; teaching assistant information; research assistant opportunities; list of tutors; and Columbia-Barnard Economics Society information.

## DEGREE REQUIREMENTS

### Regulations for all Economics Majors, Concentrators, and Interdepartmental Majors

#### DEPARTMENTAL ADVISERS

Each program has a separate departmental adviser. It is strongly recommended that students speak with the appropriate economics adviser at all times of program planning. Advisers' names can be found on the advisers' page of the Economics Department website.

Students contemplating graduate work in economics are advised to choose either the economics-mathematics or economics-statistics major and should speak with an adviser in the department during their sophomore year.

Students contemplating one of the interdepartmental majors should speak to both the adviser from the Economics Department and the adviser from the other department early in the sophomore year.

#### ECONOMICS CORE COURSES

All of the core courses must be completed **no later than the spring semester** of the student's **junior year** and must be taken at Columbia. *Students who take any core course during the fall semester of their senior year must obtain written permission from their economics adviser.* Unless otherwise specified below all students must complete the following core courses:

1. *ECON W1105 Principles of economics*
2. *ECON W3211 Intermediate microeconomics*—it is recommended that this course be completed no later than the fall semester of the junior year
3. *ECON W3213 Intermediate macroeconomics*—it is recommended that this course be completed no later than the fall semester of the junior year
4. *ECON W3412 Introduction to econometrics*

#### PREREQUISITES

Course prerequisites are strictly enforced. Prerequisites must be taken before the course, not after or concurrently.

Economics courses taken before the successful completion of any of its prerequisites, even with instructor approval, are **not** counted toward the major, concentration, or interdepartmental majors. Exemptions from a prerequisite requirement may only be made, in writing, by a departmental adviser. Students who take courses out of sequence (before or concurrently with its prerequisites) are subject to a **penalty** to be assessed by the department's director of undergraduate studies. The penalty requires students to complete additional, specific courses in economics.

The prerequisites for required courses are as follows:

Course	Prerequisites
<i>ECON W1105 Principals of economics,</i> <i>MATH V1101 Calculus I</i>	None
<i>STAT W1211 Introduction to statistics</i> (with calculus)	<i>MATH V1101</i>
<i>ECON W3213 Intermediate macroeconomics</i>	<i>MATH V1101, ECON W1105</i>
<i>ECON W3211 Intermediate microeconomics</i>	<i>MATH V1201, ECON W1105</i>
<i>ECON W3412 Introduction to econometrics</i>	<i>MATH V1201, STAT W1211, ECON W3211 or W3213</i>
<i>ECON 2000-level electives</i>	<i>ECON W1105</i>
<i>ECON 3000- and 4000-level electives</i>	<i>ECON W3211, ECON W3213</i>

**Course****Prerequisites**

*ECON W4370 Economics of uncertainty and information*

*ECON W4211 Advanced microeconomics*

*ECON W4213 Advanced macroeconomics*

*ECON V3025 Financial economics, ECON W4280 Corporate finance, ECON W4020 Economics of uncertainty and information*

*ECON W4412 Advanced econometrics*

*ECON W4480 Gender and applied economics*

*ECON W4921 Political Economy Seminar*

Economics seminars (except *ECON W4950*)

*ECON W4950 Economics and philosophy seminar*

Barnard electives

*ECON W3211, ECON W3213, STAT W1211*

*ECON W3211, ECON W3213; MATH V2010; Corequisites: MATH V2500 or MATH W4061*

*ECON W3211, ECON W3213, ECON W3412, MATH V2010*

*ECON W3211, ECON W3213, STAT W1211*

*ECON W3211, ECON W3213, ECON W3412, MATH V2010*

*ECON W3211, ECON W3213, ECON W3412*

*ECON W3211, ECON W3213, ECON W3412 (or POLS W4911), ECON W4370*

*ECON W3211, ECON W3213, ECON W3412*

*ECON W3211, ECON W3213, STAT W1211*

Please see the Barnard bulletin

It is **strongly recommended** that students take *ECON W3412 Introduction to econometrics* in the semester **immediately** following the completion of the statistics course.

**GRADING**

No course with a grade of D or lower, including calculus and statistics courses, can count toward the major, concentration, or interdepartmental majors. Economics core courses with a grade of D or F must be retaken and completed with a grade of C- or better.

Students who must retake a core course are permitted to take a higher-level economics course that has that core course as a prerequisite if it is taken concurrently with the retaking of that core course. For example, if a student fails *ECON W3211 Intermediate microeconomics*, they must retake it and in the same semester may enroll in an elective course for which it is a prerequisite, provided that all other prerequisites for the elective have been completed.

Only *ECON W1105* may be taken for a grade of Pass/D/Fail and the student must receive a grade of P for it to count toward the requirements for the major, concentration, or interdepartmental majors.

The department strictly enforces the rule regarding the grade of UW. In particular a student who has completed substantial work in a class (for example, taken the midterm) is ineligible for the grade of UW. Students who hope to get a UW must contact the instructor of the class in writing before the midterm to request the grade of UW.

**ECONOMICS ELECTIVES**

Only those courses identified in the Economics Department listings in this bulletin may be taken for elective credit. All 3000-level or higher electives offered by the Economics Department have *both ECON W3211 and ECON W3213* as prerequisites. However, some electives have additional prerequisites and students should ensure that all prerequisites have been completed. Seminars do not count as electives.

## SEMINARS

Seminars can be taken only after all of the required core courses in economics have been completed and do **not** count as electives. Each seminar is limited to fifteen students, with priority given to seniors. For *ECON W4921 Political economy seminar* and *ECON W4950 Economics and philosophy seminar*, priority is given to economics-political science and economics-philosophy majors, respectively.

Seminars are not available for on-line registration. Students must sign up in person at the Economics Department. Seminar registration is conducted on a first-come, first-served basis at 9 a.m. on the first day of each semester (not the first day the seminar meets). The department registers the first fifteen qualified students. Every seminar requires a research paper and a class presentation.

Please see the department's website for registration dates and more detailed information.

## MATHEMATICS

Students must consult with the Mathematics Department for the appropriate placement in the calculus sequence.

Students must complete one of the following sequences:

1. *MATH V1101* and *V1201 Calculus I and III*
2. *MATH V1207* and *V1208 Honors mathematics A and B*

In addition:

1. Students who receive a grade of D or F in *MATH V1201 Calculus III* must retake the course but may enroll in *ECON W3211 Intermediate microeconomics* concurrently.
2. Students who receive a grade of D or F in *MATH V1207 Honors mathematics A* may either retake the course or take *MATH V1201 Calculus III* and enroll in *ECON W3211 Intermediate microeconomics* concurrently.

## STATISTICS

Unless otherwise specified below, all students must take *STAT W1211 Introduction to statistics (with calculus)*, or a higher level course such as *SIEO W3600 Introduction to probability and statistics*, *SIEO W4150 Introduction to probability and statistics*, or *STAT W4107 Statistical inference*.

## BARNARD COURSES

A limited number of Barnard economics electives count toward the major, concentration, and interdepartmental majors. Students should pay careful attention to limit of Barnard electives indicated in their program's requirements. Please see the transfer credit section below for more information on the number of Barnard electives that may be taken to fulfill major requirements. In addition, students may receive credit for the major, concentration, and interdepartmental majors only for those Barnard economics courses listed in this bulletin. However, students may not receive credit for two courses whose content overlaps. Barnard and Columbia economics electives with overlapping content include but are not limited to:

1. *ECON BC3029 Economic development* and *W4321 Economic development*
2. *ECON BC3038 International monetary theory* and *W4505 International money and finance*
3. *ECON BC3019 Labor economics* and *W4400 Labor economics*
4. *ECON BC3047 International trade* and *W4500 International trade*
5. *ECON BC3039 Environmental and natural resource economics* and *W4625 Economics of the Environment*
6. *ECON BC3041 Theoretical foundations of political economy* and *G4235 Historical foundations of modern economics*

Students should always first consult with their economics adviser to confirm that the Barnard elective they wish to take does not overlap with a Columbia elective that they have already taken.

## CONTINUING EDUCATION COURSES

The Department of Economics no longer accepts *any* of the courses offered through the School of Continuing Education for credit towards the economics major, concentration, or interdepartmental majors with the exception of the courses offered by the Economics Department during the summer session at Columbia. The department now offers *ECON W4280 Corporate finance* for interested students.

## OTHER DEPARTMENT AND SCHOOL COURSES

Please note that with the exception of the above Barnard courses, no other courses offered through the different departments and schools at Columbia count toward the economics majors or concentration.

## TRANSFER CREDITS

### Students who declared in the fall of 2010 and prior to the fall of 2010:

No more than 12 transfer credits are accepted toward the economics major, concentration, or interdepartmental majors including credits toward the calculus and statistics requirements.

### Students who declared in the spring of 2011 and beyond:

Students are required to take a minimum number of courses in the Columbia Economics Department. For all majors and interdepartmental majors other than economics-philosophy major, students must complete a minimum of five lecture courses in the Columbia department. Students in the economics-philosophy major and economics concentration must complete a minimum of four courses. Students may fulfill their remaining requirements for economics lecture courses through AP (or IB) credits, Barnard electives, transfer courses, and study abroad courses (the latter two are subject to the approval of the Economics Department). The following table summarizes the new rules:

Program	Number of required economics lecture courses	Minimum number which must be taken in the department	Maximum number of outside allowed
Economics major	9	5	4
Financial economics	8	5	3
Economics-mathematics	7	5	2
Economics-political science	7	5	2
Economics-statistics	6	5	1
Economics-philosophy	5	4	1
Economics concentration	7	4	3

1. Lecture courses do not include seminars, which must be taken in the Columbia Economics Department. The lecture course counts are counts of economics courses only and do **not** include math, statistics, or courses in other departments.
2. At least two of the three 3000-level economics core courses must be taken in the department and no corresponding Barnard courses are accepted. *ECON V3025* and *V3265* are counted as departmental courses regardless of the instructor.

3. Outside courses include AP (or IB) credits, transfer credits, Barnard 2000- and 3000- level elective courses and transfer credits from other universities. Only one outside course may be listed for *ECON W1105 Principles of economics* even if the course was a two-semester sequence.

Approval of transfer credits to fulfill economics requirements must be obtained in writing from the Department of Economics (see the departmental Web site or speak with the advising dean for information regarding applications for transfer credit). Approval is granted only for courses that are considered to be comparable to those offered at Columbia.

Summer courses taken at other institutions must be approved in writing by the department's transfer credit adviser before the course is taken. Summer courses taken from the department of economics do not need approval.

Instructions on how to request transfer credit approval can be found in transfer credit section of the FAQ page on the department's Web site.

### **For a Major in Economics**

Please read *Regulations for all Economics Majors, Concentrators, and Interdepartmental Majors* above.

The economics major requires a minimum of 32 points in economics, 6 points in mathematics, and 3 points in statistics, for a total of 41 points as follows:

1. Economics core courses (13 points)
2. Mathematics sequence (6 points)
3. Statistics (3 points)
4. Economics electives (15 points)
  - A minimum of five electives, of which no more than one may be taken at the 2000 level (including Barnard courses).
5. Economics seminar (4 points)
6. *Declared in Fall 2010 or prior:* no more than three Barnard economics elective courses may be taken for major credit.
7. *Declared in Spring 2011 or beyond:* students must complete a minimum of five lecture courses in the Columbia Economics Department.

### **For a Concentration in Economics**

Please read *Regulations for all Economics Majors, Concentrators, and Interdepartmental Majors* above.

The economics concentration requires a minimum of 22 points in economics, 6 points in mathematics, and 3 points in statistics, for a total of 31 points as follows:

1. Economics core courses (13 points)
2. Mathematics sequence (6 points)
3. Statistics (3 points)
4. Economics electives (9 points)
  - A minimum of three electives, of which no more than one may be taken at the 2000 level (including Barnard courses).
5. *Declared in Fall 2010 or prior:* no more than two Barnard economics elective courses may be taken for major credit.
6. *Declared in Spring 2011 or beyond:* students must complete a minimum of four lecture courses in the Columbia Economics Department

### **For a Major in Financial Economics**

Please read *Regulations for all Economics Majors, Concentrators, and Interdepartmental Majors* above.

Financial markets and institutions play a critical role in shaping the real economy. The department of Economics in collaboration with the Business School is offering the major in financial economics that provides an academic framework in which to explore the role of financial markets and intermediaries in the allocation (and misallocation) of capital. Among the topics studied in financial economics are financial markets, banks and other financial intermediaries, asset valuation, portfolio allocation, regulation and corporate governance.

The financial economics major requires 23 points in economics, 6 points in mathematics, 3 points in statistics, 3 points in business, and 12 points from a list of selected courses for a total of 47 points as follows:

1. Economics core courses (13 points)
2. Finance core courses (9 points). Students must complete the finance core no later than fall of their senior year.
  - *ECON V3025 Financial economics*
  - *ECON W4280 Corporate Finance*
  - *BUSI W3013 Financial accounting* (or *IEOR E2261 Introduction to accounting and finance*)
3. Mathematics sequence (6 points) see the mathematics requirement for the major
4. Statistics (3 points) see the statistics requirement for the major
5. Electives (12 points)
  - Four of the following (of which *two* must be from the Columbia or Barnard economics departments):
    - ECON V3265 Economics of money and banking*
    - ECON W4020 Economics of uncertainty and information*
    - ECON W4213 Advanced macroeconomics*
    - ECON W4251 Industrial organization*
    - ECON W4412 Advanced econometrics*
    - ECON W4415 Game theory*
    - ECON W4465 Public economics*
    - ECON W4505 International monetary theory and policy* or *BC3038 International money and finance*
    - ECON G4526 Transition reforms, globalization and financial crises*
    - ECON BC3014 Entrepreneurship*
    - ECON BC3017 Economics of business organizations*
    - STAT W4290 Statistical methods in finance*
    - STAT W4635 Stochastic processes for finance*
    - STAT W4840 Theory of interest*
    - MATH V3050 Discrete time models in finance*
    - MATH W4077 Introduction to the mathematics of finance*
    - IEOR E3106 Introduction to OR: stochastic models*
    - IEOR E4700 Introduction to financial engineering*
    - BUSI W3021 Marketing management*
    - BUSI W3701 Strategic behavior/strategy formulation*
    - BUSI W3703 Leadership in organizations*
    - BUSI W4412 Managerial negotiations*
    - POLS W3630 The politics of international economic relations*
6. Seminar (4 points)
  - The seminar must be chosen from a list of seminars eligible for the financial economics major. The department indicates which seminars are eligible for the major on the Senior Seminars page of the departmental Web site.
  - Students must have completed at least one of *ECON V3025* or *W4280* prior to taking their senior seminar.
7. *Declared in spring 2011 or beyond*: students must complete a minimum of five lecture courses in the Columbia Economics Department. At least two of the core finance courses must be taken at Columbia University.

### For a Major in Economics-Mathematics

Please read *Regulations for all Economics Majors, Concentrators, and Interdepartmental Majors* above.

The major in economics and mathematics provides students with a grounding in economic theory comparable to that provided by the general economics major, while it also exposes students to rigorous and extensive training in mathematics. The program is strongly recommended for any student planning to do graduate work in economics.

Two advisers are assigned for the interdepartmental major, one in the department of Economics and one in the Department of Mathematics. Please note that the

economics adviser can only advise on the economics requirements and the mathematics adviser can only advise on the mathematics requirements.

The economics-mathematics major requires a total of 53 points: 26 points in economics and 27 points in mathematics and statistics as follows:

1. Economics core courses (13 points)
2. Economics electives (9 points)
  - Three electives at the 3000 level or above
3. Mathematics (24 points)
  - One of the following sequences:
    - MATH V1101, V1102, V1201 and V2010 Calculus I, II, III, and Linear algebra*
    - MATH V1207 and V1208 Honors math A and B*
  - *MATH V2500 Analysis and optimization*
  - Choose any three electives in mathematics from the following list:
    - MATH E1210 Ordinary differential equations*
    - MATH V1202 Calculus IV*
    - Any mathematics course at the 3000 level or above
4. Statistics (3 points)
  - One of the following:
    - SIEO W4150 Introduction to probability and statistics*
    - STAT W3105 Introduction to statistics: probability models, and STAT W3107 Statistical inference*
    - SIEO W4105 Probability and STAT W4107 Statistical inference*
5. Economics seminar (4 points)
6. *Declared in Fall 2010 or prior*: no more than two Barnard economics elective courses may be taken for major credit.
7. *Declared in Spring 2011 or beyond*: students must complete a minimum of five lecture courses in the Columbia Economics Department

**Notes:** (1) Students who fulfill the statistics requirement with *STAT W3105* and *STAT W3107*, or with *SIEO W4105* and *STAT W4107*, may count *STAT W3105* or *SIEO W4105* as one of the three required mathematics electives. (2) Students who choose either of the one year sequence (*W3105/W3107* or *W4105/W4107*), must complete the year long sequence *prior* to taking *W3412 Econometrics*. Students receive elective credit for the probability course.

### For a Major in Economics–Operations Research

The major in economics-operations research is closed to new students beginning in the fall of 2010. Students interested in this major should consider one of the two other quantitative interdepartmental majors (economics-statistics and economics-mathematics) or the new major in financial economics. Students who declared the economics—operations research major prior to the fall of 2010 are allowed to complete the major.

Please read *Regulations for all Economics Majors, Concentrators, and Interdepartmental Majors* above.

The major in economics and operations research provides students with a foundation in economic theory comparable to that provided by the general economics major, while it also introduces students to the field of operations research. The program is recommended for students with strong quantitative skills who are contemplating graduate studies in operations research or business.

Two advisers are assigned for the interdepartmental major, one in the Department of Economics and one in operations research. Please note that the economics adviser can only advise on the economics requirements and the operations research adviser can only advise on the operations research requirements.

The economics—operations research major requires a total of 52 points: 23 points in economics, 12 points in mathematics, 14 points in industrial engineering and operations research (IEOR), and 3 points in computer science as follows:



1. Economics core courses (13 points)
2. Economics electives (6 points)
  - Two electives at the 3000 level or above, of which no more than **one** may be a Barnard course
3. Mathematics (12 points)
  - One of the following sequences:
    - MATH V1101, V1102, V1201 and V2010 Calculus I, II, III, and Linear algebra*
    - MATH V1207 and V1208 Honors math A and*
4. Industrial engineering and operations research (14 points)
  - *IEOR E3600 Introduction to probability and statistics*
  - *IEOR E3608 Introduction to mathematical programming*
  - *IEOR E3106 or E4106 Introduction to operations research: stochastic models*
  - One elective in operations research or statistics. (See *The Fu Foundation School of Engineering and Applied Sciences Bulletin* for complete listings)
5. Computer science (3 points)
  - One of the following:
    - COMS W1003 Introduction to computer science and programming in C*
    - COMS W1004 (preferred) Introduction to computer science and programming in JAVA*
    - COMS W1005 Introduction to computer science and programming in MATLAB*
    - COMS W1007 Object-oriented programming and design in JAVA*
6. Seminar (4 points)
  - *ECON W4918 Seminar in econometrics*

### For a Major in Economics-Philosophy

Please read *Regulations for all Economics Majors, Concentrators, and Interdepartmental Majors* above.

Economics-philosophy is an interdisciplinary major that, while introducing students to the basic methodologies of economics and philosophy, stresses areas of particular concern to both. These include subjects such as rationality and decision making, justice and efficiency, freedom and collective choice, the logic of empirical theories and their testing. Many of the issues are dealt with historically, and classic texts of Plato, Kant, Mill, Marx, and Smith are reviewed.

Two advisers are assigned for the interdepartmental major, one in the department of Economics and one in the department of Philosophy. Please note that the economics adviser can only advise on the economics requirements and the philosophy adviser can only advise on the philosophy requirements.

The economics-philosophy major requires a total of 44 points: 16 points in economics, 15 points in philosophy, 6 points in mathematics, 3 points in statistics, and 4 points in the interdisciplinary seminar as follows:

1. Economics core courses (10 points)
  - *ECON W1105 Principles of economics*
  - *ECON W3211 Intermediate microeconomics*
  - *ECON W3213 Intermediate macroeconomics*
2. Mathematics sequence (6 points)
3. Statistics (3 points)
4. Economics electives (6 points)
  - Two of the following:
    - ECON W4020 Economics of uncertainty and information*
    - ECON W4080 Globalization, incomes, and inequality*
    - ECON W4211 Advanced microeconomics*
    - ECON W4213 Advanced macroeconomics*
    - ECON W4228 Urban economics*
    - ECON G4235 (or BC3041) Historical foundations of modern economics*
    - ECON G4301 Economic growth and development*
    - ECON W4321 (or BC3029) Economic development*
    - ECON W4329 Economics of sustainable development*

- ECON W4345 *World economic problems*
  - ECON W4370 *Political economy*
  - ECON W4400 (or BC3019) *Labor economy*
  - ECON W4415 *Game theory*
  - ECON W4438 *Economics of race in the United States*
  - ECON W4465 *Public economics*
  - ECON W4480 *Gender and applied economics*
  - ECON W4500 (or BC3047) *International trade*
  - ECON W4615 *Law and economics*
  - ECON W4625 (or BC3039) *Economics of the environment*
  - ECON W4750 *Globalization and its risks*
  - ECON BC3011 *Poverty and income distribution*
5. Philosophy courses (15 points)
    - PHIL C1010 *Methods and problems of philosophical thought*
    - PHIL V3411 *Symbolic logic*
    - PHIL V3701 *Moral philosophy* (or another adviser-approved course in moral or political philosophy)
    - PHIL W3551 (or another adviser-approved course in epistemology or philosophy of science)
    - One of the following:
      - PHIL G4561 *Probability and induction*
      - PHIL G4565 *Rational choice*
  6. Seminar (4 points)
    - ECPH W4950 *Economics and philosophy seminar* (or another adviser-approved seminar in philosophy or economics)
  7. *Declared in Spring 2011 or beyond*: students must complete a minimum of four lecture courses in the Columbia Economics Department.

### For a Major in Economics–Political Science

Please read *Regulations for all Economics Majors, Concentrators, and Interdepartmental Majors* above.

Political economy is an interdisciplinary major that introduces students to the methodologies of economics and political science and stresses areas of particular concern to both. This program is particularly beneficial to students planning to do graduate work in schools of public policy and international affairs.

Two advisers are assigned for the interdepartmental major, one in the Department of Economics and one in the Department of Political Science. Please note that the economics adviser can only advise on the economics requirements and the political science adviser can only advise on the political science requirements.

The economics-political science major requires a total of 54 points: 19 points in economics, 15 points in political science, 6 points in mathematics, 6 points in statistical methods, 4 points in a political science seminar, and 4 points in the interdisciplinary seminar as follows. The political science courses are grouped into three areas: (1) American politics, (2) comparative politics, and (3) international relations. For the political science part of the major, students are required to select one area as a major field and one as a minor field. The corresponding introductory courses in both fields must be taken, plus two electives in the major, and one in the minor field.

1. Economics core courses (13 points)
  - ECON W1105 *Principles of economics*
  - ECON W3211 *Intermediate microeconomics*
  - ECON W3213 *Intermediate macroeconomics*
  - ECON W4370 *Political economy*
2. Mathematics sequence (6 points)
3. Statistical methods (6 points)
  - One of the following:

- ECON W3412 Introduction to econometrics* **and** one of the statistics courses listed under *Regulations for Economics Majors, Concentrators, and Interdepartmental Majors*.
- POLS W4911 Analysis of political data* **and** one of the statistics course listed under *Regulations for Economics Majors, Concentrators, and Interdepartmental Majors* or *POLS W4910 Principles of quantitative political research*.

4. Economics electives (6 points)
  - Two electives at the 3000 level or above
5. Political science courses (15 points)
  - Major subfield - 9 points, including the introductory course, all in one of the three subfields of American politics, comparative politics, or international relations, coordinated with the economics electives and approved in advance by the adviser
  - Minor subfield - 6 points of courses, including the introductory course in another subfield, coordinated with the economics electives and approved by the adviser
6. Seminars (8 points)
  - A Political Science Department seminar, to be approved in advance by the adviser, in the major subfield.
  - ECPS W4921 Seminar in political economy.
7. *Declared in Fall 2010 or prior*: no more than one Barnard economics elective course may be taken for major credit.
8. *Declared in Spring 2011 or beyond*: students must complete a minimum of five lecture courses in the Columbia Department.

Note: *POLS W4910* is not equivalent to *STAT W1211* and as such cannot be used to fulfill the prerequisite requirements of courses that require *STAT W1211* such as *ECON W3412*, *ECON V3025*, *ECON W4280* and *ECON W4020*.

### For a Major in Economics-Statistics

Please read *Regulations for all Economics Majors, Concentrators, and Interdepartmental Majors* above.

The major in economics and statistics provides students with a grounding in economic theory comparable to that provided by the general economics major, yet additionally exposes students to a significantly more rigorous and extensive statistics training than is provided by the general major. This program is recommended for students with strong quantitative skills and for those students who are contemplating graduate studies in economics.

Two advisers are assigned for the interdepartmental major, one in the Department of Economics and one in the Department of Statistics. Please note that the economics adviser can only advise on the economics requirements and the statistics adviser can only advise on the statistics requirements.

The economics-statistics major requires a total of 53 points: 23 in economics, 15 points in statistics, 12 points in mathematics, and 3 points in computer science as follows:

1. Economics core courses (13 points)
2. Economics electives (6 points)
  - Two electives at the 3000 level or above
3. Mathematics (12 points)
  - One of the following sequences:
    - MATH V1101*, *V1102*, *V1201* and *V2010 Calculus I, II, III, and Linear algebra*
    - MATH V1207* and *V1208 Honors math A and B*
4. Statistics (15 points)
  - *STAT W1211 Introduction to statistics (with calculus)*
  - *STAT W3105 Introduction to statistics: probability models*
  - *STAT W3107 Statistical inference*
  - *STAT W4315 Linear regression models*
  - One elective (excluding *STAT W1001*, *W1111*, *W2110* and *SIEO W4150*)

5. Computer science (3 points)
  - One of the following:
    - COMS W1003 *Introduction to computer science and programming in C*
    - COMS W1004 (preferred) *Introduction to computer science and programming in JAVA*
    - COMS W1005 *Introduction to computer science and programming in MATLAB*
    - COMS W1007 *Object-oriented programming and design in JAVA*
6. ECON W4918 *Seminar in econometrics* (4 points)
7. *Declared in Fall 2010 or prior*: no more than one Barnard economics elective course may be taken for major credit.
8. *Declared in Spring 2011 or beyond*: students must complete a minimum of five lecture courses in the Columbia Economics Department.

# Education

**Program Director:** Prof. Lee Anne Bell, 335A Milbank; Barnard; 854-9237; lbell@barnard.edu

**Program Office:** 335-336 Milbank; Barnard; 854-7072

**Advisory Committee on Education**

Peter Balsam (Psychology, Barnard)

Lee Anne Bell (Education, Barnard)

Lesley Sharp (Anthropology, Barnard)

Herb Sloan (History, Barnard)

Kathryn Yatrakis (Dean of Academic Affairs, Columbia College)

**Professor**

Lee Anne Bell (Barnard)

**Assistant Professors**

Maria Rivera (Barnard)

The mission of the Barnard College Education Program is to prepare students to become skilled and reflective teachers who can effectively respond to the learning needs of diverse learners and create supportive and intellectually stimulating classroom communities. We are committed to strengthening public education and addressing issues of equity and social justice, particularly in urban schools. The program serves all undergraduates of Barnard College and Columbia University (Columbia College, the School of General Studies, and The Fu Foundation School of Engineering and Applied Science) who are interested in becoming certified teachers, working with young people in human service agencies, or preparing for careers related to education.

Students combine their major or concentration with course work in psychology, educational foundations (courses in history, economics, philosophy, as well as Sociology of education and Contemporary issues in education), pedagogy (Methods of teaching; Seminar in the teaching-learning process), and field-based experience in urban classrooms (Practicum: student teaching). During senior year, students are placed with experienced teachers in New York City public schools for a semester of full-time student teaching.

The Education Program is accredited by the Regents and registered by the New York State Education Department to recommend students who complete the program for initial certification in either childhood education (Grades 1–6) or adolescence education (Grades 7–12). Graduates of the program are also eligible for membership in the Interstate Certification Agreement, a reciprocal certification among forty-one states. We provide ongoing support to those who teach in the New York City area through our New Teacher Network.

To apply, students can download an information packet from the program Web site or pick one up in 336 Milbank. Students may apply for admission any time during the sophomore year but no later than the first Monday in October of the junior year. Those who plan to study abroad during junior year should apply and take the methods and practicum courses by the end of sophomore year. Admission criteria include good academic standing; evidence of commitment to the field of education; interest in issues of social justice as they affect education, particularly in urban schools; and capacity for growth as an intellectually resourceful and reflective teacher. Enrollment in the program is limited.

## DEGREE REQUIREMENTS

### Childhood Education Program

This program currently leads to the New York State Initial Certification in Childhood Education (Grades 1–6). Senior year student teaching may conflict with other opportunities at Barnard (e.g., *PSYC BC3465*, *PSYC BC3466*, assisting at the Center for Toddler Development). Students with these interests should arrange their schedules accordingly.

In addition to the major or concentration, students must complete a total of 26–28 points in the pedagogical core, education foundations, and psychology.

**PEDAGOGICAL CORE:**

1. All of the following Education Program courses:
  - *EDUC BC2052 Seminar in elementary multicultural pedagogy*
  - *EDUC BC2055 Urban school practicum (sec 1)*
  - *EDUC BC3063 Student teaching in urban schools*
  - *EDUC BC3064 Senior seminar on issues in urban teaching*

**PSYCHOLOGY:**

1. *PSYC BC1001 Introduction to psychology*
2. One of the following psychology courses:
  - *PSYC BC1105 Psychology of learning with lab*
  - *PSYC BC1107 Psychology of learning*
  - *PSYC BC1113 Cognitive psychology with lab*
  - *PSYC BC1115 Cognitive psychology*
  - *PSYC BC1127 Developmental psychology with lab*
  - *PSYC BC1129 Developmental psychology*
  - *PSYC W1420 Human behavior*
  - *PSYC W1440 Learning and motivation*
  - *PSYC BC2134 Educational psychology*
  - *PSYC W2220 Cognition: memory and stress*
  - *PSYC W2280 Introduction to developmental psychology*
  - *PSYC BC3382 Adolescent psychology*

**ADDITIONAL REQUIREMENTS:**

1. One course selected from either the Educational foundations or Psychology categories

**Adolescence Education Program (To Teach Grades 7-12)**

This program leads to the New York State Initial Certification in Adolescence Education (Grades 7–12) in the fields of English, Foreign and Ancient Languages, Mathematics, the Sciences, and Social Studies.

Students must complete a total of 23–26 points as follows:

**PEDAGOGICAL CORE:**

1. All of the following Education Program courses:
  - *EDUC BC2052 Seminar in elementary multicultural pedagogy*
  - *EDUC BC2055 Urban school practicum (sec 2)*
  - *EDUC BC3063 Student teaching in urban schools*
  - *EDUC BC3064 Senior seminar on issues in urban teaching*

**EDUCATIONAL FOUNDATIONS:**

1. One of the following courses:
  - *ECON BC3012 Economics of education*
  - *EDUC BC2032 Contemporary issues in education*
  - *HIST BC4542 Education in American history*
  - *PHIL V2100 Philosophy of education*
  - *SOCI V3225 Sociology of education*

**PSYCHOLOGY:**

1. *PSYC BC1001 Introduction to psychology*
2. One of the following psychology courses:
  - *PSYC BC1105 Psychology of learning with lab*
  - *PSYC BC1107 Psychology of learning*
  - *PSYC BC1113 Cognitive psychology with lab*
  - *PSYC BC1115 Cognitive psychology*
  - *PSYC BC1127 Developmental psychology with lab*
  - *PSYC BC1129 Developmental psychology*

- *PSYC W1420 Human behavior*
- *PSYC W1440 Learning and motivation*
- *PSYC BC2134 Educational psychology*
- *PSYC W2220 Cognition: memory and stress*
- *PSYC W2280 Introduction to developmental psychology*
- *PSYC BC3382 Adolescent psychology*

Students seeking certification in adolescence education must also complete 36 points in the content area for which they seek certification.

1. English: A total of 36 points of English
2. Foreign Languages: A total of 36 points in French, German, Greek, Italian, Latin, Russian, or Spanish
3. Mathematics: A total of 36 points of mathematics
4. Science: A total of 36 points in sciences, including:
  - a minimum of 18 points of collegiate-level study in the science or each of the sciences for which certification is sought: biology, chemistry, physics, or Earth science
5. Social Studies: A total of 36 points, including:
  - 6 points of American history
  - 6 points of European or world history
  - 3 points of study in Africa, Latin America, or Asia
  - any other distribution to total 36 points, chosen from history, political science, anthropology, sociology, and economics

### Certification Requirements

Certification is based on demonstrated quality in fieldwork and academic course work, requisite hours of practice in the field, completing sessions on state-mandated topics, fingerprinting, and passing three New York State Teacher Certification Exams (NYSTCE). Students fulfill 100 hours of prestudent teaching fieldwork experience (60 hours in practicum, plus 40 hours of independent fieldwork) and complete 200 hours of student teaching (100 hours of teaching, plus 100 hours of observation at two grade levels within the certification age range). Students are required to complete sessions in *Identifying and reporting child abuse*, *Prevention of school violence*, *Drug and alcohol abuse prevention*, and *Inclusion of students with special needs*. Graduates of the Education Program have a 100 percent pass rate on the NYSTCE.

### Urban Studies Specialization in Education

Urban Studies majors who have selected education as their area of specialization within the major should complete the following:

1. *EDUC BC2032 Contemporary issues in education*
2. One of the following:
  - *PSYC BC2134 Educational psychology*
  - *PSYC BC3382 Adolescent psychology*
3. One of the following:
  - *SOCI V3225 Sociology of education*
  - *ECON BC3012 Economics of education*
4. One of the following:
  - *EDUC BC2052 Seminar in elementary multicultural pedagogy*
  - *EDUC BC2062 Seminar in Secondary multicultural pedagogy*
5. *EDUC BC2055 Urban school practicum*

Urban Studies majors who wish to pursue certification to teach may also take *EDUC BC3063 Student teaching* and *EDUC BC3064 Seminar in the teaching-learning process*. Please speak with an Education Program faculty member for further details. Students are encouraged to plan ahead carefully if they wish to pursue this option.

# English & Comparative Literature

**Director of Undergraduate Studies:** Prof. Julie Crawford, 613C Philosophy; 854-5779; [jc830@columbia.edu](mailto:jc830@columbia.edu)

**Departmental Advisers:**

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Prof. Nicole Horejsi, 602 Philosophy; 854-3215; [njh2115@columbia.edu](mailto:njh2115@columbia.edu)

Prof. Wen Jin, 602 Philosophy; 854-2623; [wj2130@columbia.edu](mailto:wj2130@columbia.edu)

**Departmental Office:** 602 Philosophy; 854-3215

**URL:** <http://www.columbia.edu/cu/english/>

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Ann Douglas

Kathy Eden

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Farah Jasmine Griffin

Saidiya Hartman

Marianne Hirsch

Jean E. Howard (chair)

Maire Jaanus (Barnard)

Philip Kitcher (Philosophy)

Sharon Marcus

Edward Mendelson

Robert O'Meally

Julie Peters

Ross Posnock

Anne L. Prescott (Barnard)

Austin E. Quigley

Bruce Robbins

James Shapiro

Gayatri Chakravorty Spivak (University Professor)

Alan Stewart

Mark Strand

Gauri Viswanathan

David M. Yerkes

**Associate Professors**

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Marcellus Blount

Sarah Cole

Julie Crawford

Nicholas Dames

Jenny Davidson

Michael Golston

Ross Hamilton (Barnard)

Molly Murray

Frances Negrón-Muntaner

Joseph Slaughter

Maura Spiegel (Barnard)

**Assistant Professors**

Katherine Biers

Patricia Dailey

Erik Gray

Nicole Horejsi

Wen Jin

**Adjunct Associate Professor**

Eric Haralson

**Adjunct Assistant Professors**

Zander Brietzke

Monica Cohen

Marianne Giordani

Stephen Massimilla

**Lecturers**

Eileen Gillooly

Deborah Martinsen

The program in English fosters the ability to read critically and imaginatively, to appreciate the power of language to shape thought and represent the world, and to be sensitive to the ways in which literature is created and achieves its effects. It has several points of departure, grounding the teaching of critical reading in focused attention to the most significant works of English literature, in the study of the historical and social conditions surrounding literary production and reception, and in theoretical reflection on the process of writing and reading and the nature of the literary work.

The courses the department offers draw on a broad range of methodologies and theoretical approaches, from the formalist to the political to the psychoanalytical (to mention just a few). Ranging from the medieval period to the 21st century, we teach major authors alongside popular culture, traditional literary genres alongside verbal forms that cut across media, canonical British literature alongside postcolonial, global, and trans-Atlantic literatures.

At once recognizing traditional values in the discipline and reflecting its changing shape, the major points to three organizing principles for the study of literature—history, genre, and geography. Requiring students not only to take a wide



variety of courses but also to arrange their thinking about literature on these very different grids, the major gives them broad exposure to the study of the past, an understanding of the range of forms that can shape literary meaning, and an encounter with the various geographical landscapes against which literature in English has been produced.

## Advising

Students are not assigned specific advisers, but rather each year the faculty members serving on the department's Committee on Undergraduate Education (CUE) are designated undergraduate advisers (see above, Departmental Advisers). Upon declaring a major or concentration in English, students should meet with the director of undergraduate studies or a delegated faculty adviser to discuss the program, especially to ensure that students understand the requirements.

Students must fill out a Major Requirements Worksheet early in the semester preceding graduation. The worksheet must be reviewed by an adviser and submitted to 602 Philosophy before the registration period for the final semester. The worksheet is available in the English Department (602 Philosophy) or on-line at [http://www.columbia.edu/cu/english/ug\\_majworksheet.htm](http://www.columbia.edu/cu/english/ug_majworksheet.htm). It is this worksheet—NOT the Degree Audit Report (DAR)—that determines eligibility for graduation as an English major or concentrator.

## Course Information

### LECTURES

Generally lectures are addressed to a broad audience and do not assume previous course work in the area, unless prerequisites are noted in the description. The size of some lectures is limited. Senior majors have preference unless otherwise noted, followed by junior majors, followed by senior and junior nonmajors. Students are responsible for checking for any special registration procedures on-line at [http://www.columbia.edu/cu/english/courses\\_ugreginst.htm](http://www.columbia.edu/cu/english/courses_ugreginst.htm).

### SEMINARS

The department regards seminars as opportunities for students to do advanced undergraduate work in fields in which they have already had some related course experience. With the exception of some *CLEN* classes (in which, as comparative courses, much material is read in translation), students' admission to a seminar presupposes their having taken *ENGL W3001 Critical reading, critical writing*. During the three weeks preceding the registration period, students should check [http://www.columbia.edu/cu/english/courses\\_ugreginst.htm](http://www.columbia.edu/cu/english/courses_ugreginst.htm) for application instructions for individual seminars. Applications to seminars are usually due by the end of the week preceding registration, and admit lists are posted by the second day of the registration period at [http://www.columbia.edu/cu/english/courses\\_ugsemadmit.htm](http://www.columbia.edu/cu/english/courses_ugsemadmit.htm). Students should always assume that the instructor's permission is necessary; those who register without having secured the instructor's permission are not guaranteed admission.

## Departmental Honors

Writing a senior essay is a precondition, though not a guarantee, for the possible granting of departmental honors. After essays are submitted, faculty sponsors deliver a written report on the essay to the department's Committee on Undergraduate Education (CUE), with a grade for the independent study and, if merited, a recommendation for honors. CUE considers all the essays, including sponsor recommendations, reviews students' fall semester grades, and determines which students (no more than 10 percent of all graduating English majors in the College) will receive departmental honors.

## The Degree Audit Reporting System (DARS)

The DAR is a useful tool for students to monitor their progress toward degree requirements, but it is not an official document for the major or concentration, nor

should it replace consultation with departmental advisers. The department's director of undergraduate studies is the final authority on whether requirements for the major have been met. Furthermore, the DAR may be inaccurate or incomplete for any number of reasons—for example, courses taken elsewhere and approved for credit will not show up on the DAR report as fulfilling a specific requirement.

### **On-Line Information**

Other departmental information—faculty office hours, registration instructions, late changes, etc.—is available electronically on the departmental Web site.

## **DEGREE REQUIREMENTS**

### **Regulations for all English and Comparative Literature Majors and Concentrators**

#### **DECLARING A MAJOR IN ENGLISH**

Upon declaring a major in English, students should meet with either the director of undergraduate studies or a departmental adviser (listed above) to discuss the program. Students declaring a major should obtain a Major Requirements Worksheet, from 602 Philosophy or on-line at [http://www.columbia.edu/cu/english/ug\\_majworksheet.htm](http://www.columbia.edu/cu/english/ug_majworksheet.htm), which outlines the requirements. Additional information, including events and deadlines of particular relevance to undergraduates, is provided at [http://www.columbia.edu/cu/english/ug\\_index.htm](http://www.columbia.edu/cu/english/ug_index.htm), the department's undergraduate homepage: the sidebar on this page provides links to pages with details about advising, major and concentration requirements, course options and restrictions, registration procedures, the senior essay, and writing prizes, as well as links to downloadable worksheets for the major and concentration and to course distribution requirement lists, past and present. For detailed information about registration procedures, students should consult the sidebar at [http://www.columbia.edu/cu/english/courses\\_index.htm](http://www.columbia.edu/cu/english/courses_index.htm), which explains the requirements and enables students to monitor their own progress.

Newly declared majors should contact the undergraduate assistant in 602 Philosophy Hall and request that their name be added to the department's electronic mailing list for English majors and concentrators. Because important information is now routinely disseminated through e-mail, it is crucial that students be on this list.

#### **CRITICAL READING, CRITICAL WRITING**

The introductory course *ENGL W3001 Critical reading, critical writing*, together with its companion seminar, *ENGL W3011*, is required for the English major and concentration. It should be taken by the end of the sophomore year. Fulfillment of this requirement is a factor in admission to seminars and to some lectures. This once-a-week faculty lecture, accompanied by a seminar led by an advanced graduate student in the department, is intended to introduce students to the study of literature. Students read works from the three major literary modes (lyric, drama, and narrative), drawn from premodern to contemporary literatures, and learn interpretative techniques required by these various modes or genres. This course does not fulfill any distribution requirements.

#### **SENIOR ESSAY**

The senior essay program is an opportunity for students to explore in depth some literary topic of special interest to them, involving extensive background reading and resulting in an essay (8,000–15,000 words) that constitutes a substantial and original critical or scholarly argument. Students submit proposals in September of their senior year, with acceptance contingent upon the quality of the proposal and the student's record in the major. Students who are accepted are assigned a faculty sponsor to supervise the project, from its development during the fall semester to its completion in the spring. It is for the spring semester, not the fall, that students officially register for the course, designated as *ENGL W3999 Senior essay*. Senior essays are due in early April.

**COURSE OPTIONS AND RESTRICTIONS:**

1. No course at the *1000* level may be counted toward the major.
2. Speech courses may not be counted toward the major.
3. Two writing courses or two upper-level literature courses taught in a foreign language, or one of each, may count toward the major, though neither type of course fulfills any distribution requirement. Writing courses that may be applied toward the major include those offered through Columbia's undergraduate Creative Writing Program and through Barnard College.
4. Comparative literature courses sponsored by the department may count toward the major. Those sponsored by other departments are not counted toward the major without the permission of the director of undergraduate studies. Literature courses taught in English in language departments do not count toward the major.
5. No more than two courses taken during the summer session may be counted toward the major.
6. Courses offered through the Barnard English Department may count toward the major or concentration. Students should consult the Barnard Course Distribution List, available in the department and at the department Web site, that specifies Barnard courses approved for the major and the requirements these courses satisfy. Before taking Barnard courses not on this list, students should verify with the director of undergraduate studies whether and how such courses may count toward the major.
7. For courses taken abroad or at other American institutions to count toward the major, students must obtain the approval of the director of undergraduate studies.
8. To register for more than 42 points (including advanced standing credit) in English and comparative literature, a student majoring in English must obtain the permission of the director of undergraduate studies.
9. No more than five courses taken elsewhere may be applied to the major, four to the concentration.
10. One independent study (for at least 3 pts) may count toward the major but cannot satisfy any distribution requirements; likewise, the *Senior essay* may count toward the major but fulfills no requirements. Students **may not count both** an *Independent study* and the *Senior essay* toward the major.
11. Courses assigned a grade of D may not be counted toward the major.
12. Only the first course taken to count toward the major can be taken Pass/Fail.

**For a Major in English**

Ten departmental courses (for a minimum of 30 pts) and, in the process, fulfillment of the following requirements. See course information above for details on fulfilling the distribution requirements.

1. *ENGL W3001* and *ENGL W3011 Critical reading, critical writing*
2. **Period distribution:** Three courses primarily dealing with periods before 1800, only one of which may be a course in Shakespeare.
3. **Genre distribution:** One course in each of the following three generic categories:
  - poetry
  - prose fiction/narrative
  - drama and film
4. **Geography distribution:** One course in each of the following three geographical categories:

- British
- American
- comparative/global (comparative literature, postcolonial, global English, trans-Atlantic, diaspora)

Course Distribution Lists are available in the department and on-line at [http://www.columbia.edu/cu/english/ug\\_disctcours.htm](http://www.columbia.edu/cu/english/ug_disctcours.htm) to help students determine which courses fulfill which requirements. **A single course can satisfy more than one distribution requirement.** For example, a Shakespeare lecture satisfies three requirements at once: not only does it count as one of the three required pre-1800 courses; it also, at the same time, fulfills both a genre and a geography distribution requirement (drama and British, respectively). Courses not on the distribution list may count toward the major requirements **only** with the permission of the director of undergraduate studies. Two writing courses or upper-level literature courses taught in a foreign language, or one of each, may count toward the ten (see course options and restrictions above).

### For a Concentration in English

Eight departmental courses and, in the process fulfillment of the following requirements. See course information above for details on fulfilling the distribution requirements.

1. *ENGL W3001* and *ENGL W3011 Critical reading, critical writing*
2. **Period distribution:** Two courses dealing with periods before 1800, only one of which may be a course in Shakespeare
3. **Genre distribution:** Two courses, each chosen from a different genre category (see above)
4. **Geography distribution:** Two courses, each chosen from a different geography category (see above)

See the Course Distribution Lists, available in the department or on-line at [http://www.columbia.edu/cu/english/ug\\_directors.htm](http://www.columbia.edu/cu/english/ug_directors.htm), to determine which courses fulfill which requirements. All of the restrictions outlined for the English major also apply for the concentration in English.

### Comparative Literature Program

Students who wish to major in comparative literature should consult the *Comparative Literature and Society* section of the bulletin.

## Ethnicity and Race Studies

**Program Director:** Prof. Frances Negrón-Muntaner, 422 Hamilton; 854-0507;  
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### Executive Committee

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Rachel Adams (English and Comparative  
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Carlos Alonso (Latin American and Iberian  
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Janaki Bakhle (History)

Christina Burnett (Law School)

Steven Gregory (Anthropology)

Evan Haefeli (History)

Kim Hall (English, Barnard)

Jean Howard (English and Comparative  
Literature)

Wen Jin (English and Comparative  
Literature)

Ira Katznelson (Political Science)

George Lewis (Music)

Natasha Lightfoot (History)

Manning Marable (History; Political Science;  
School of International and Public Affairs)

Greg Pflugfelder (East Asian Languages and  
Cultures)

Pablo Piccato (History)

Caterina Pizzigoni (History)

Elizabeth A. Povinelli (Anthropology)

Bruce Robbins (English and Comparative  
Literature)

Samuel Roberts (History)

Audra Simpson (Anthropology)

Founded in 1999, the Center for the Study of Ethnicity and Race (CSER) is an interdisciplinary intellectual space whose mission is to advance the most innovative teaching, research, and public discussion about race and ethnicity. To advance its mission, the Center organizes conferences, seminars, exhibits, film screenings, and lectures that bring together faculty, undergraduate, and graduate students with diverse interests and backgrounds. Moreover, CSER partners with departments, centers, and institutes at Columbia as well as with colleagues and organizations on and off campus, in order to reach new audiences and facilitate an exchange of knowledge.

Located at CSER and taught in cooperation with Barnard College's Interdisciplinary Concentration on Race and Ethnicity (ICORE), the ethnicity and race studies major encompasses a variety of fields and interdisciplinary approaches to the critical study of ethnicity and race. What makes CSER unique is its attention to the comparative study of racial and ethnic categories in the production of social identities, power relations, and forms of knowledge in a multiplicity of contexts including the arts, social sciences, natural sciences, and humanities. In addition to the major, CSER also offers concentrations in Asian American studies, Latino studies, and comparative ethnic studies.

Faculty and students find this field exciting and important because it opens up new ways of thinking about two fundamental aspects of human social existence: race and ethnicity. Although various traditional disciplines such as history, sociology, anthropology, and literature, among others, offer valuable knowledge on race and ethnicity, ethnicity and race studies provides a flexible interdisciplinary and comparative space to bring the insights of various conceptual frameworks and disciplines together in critical dialogue.

Overall, the major introduces students to the study of ethnicity and race, and the deep implications of the subject matter for thinking about human bodies, identity,

culture, social hierarchy, and the formation of political communities. The major encourages students to consider the repercussions of racial and ethnic identifications to local and global politics, and how race and ethnicity relates to gender, sexuality, and social class, among other forms of hierarchical difference.

Students majoring in ethnicity and race studies may focus their work on specific groups, such as Asian Americans, Latinos, Native Americans; or a comparative study of how race and ethnicity are formed and how conceptions of race and ethnicity transform and change over time and place. Students also have the option of designing an individualized course of study. Individualized courses of study may encompass a wide variety of themes. Among the most studied are those involving the relationship between race, ethnicity and law; health; human rights; urban spaces; cultural production; visual culture; and the environment.

Due to its rigorous curriculum, which trains students in theory, history, and a wide range of modes of inquiry, the major enables a student to follow multiple directions after graduation. According to our internal surveys, nearly half of CSER students continue to Ph.D. programs in history, anthropology, and ethnic studies, among other areas. A second significant number of students continue on to professions most notably related to law, public policy, medicine, human rights, community organizing, journalism, and the environment.

### Study Abroad

Students are highly encouraged to participate in study abroad programs as they represent an exciting opportunity to learn new languages and live in countries that are germane to their areas of study. In addition, travel abroad can enrich every student's intellectual experience by providing an opportunity to learn about other perspectives on ethnicity and race.

In the past, students have participated in study abroad programs in Australia, Dominican Republic, Mexico, and South Africa. To ensure that study abroad complements the major and integrates effectively with the requirements of the major, students are encouraged to consult with CSER's undergraduate adviser as early in their academic program as possible. The director of undergraduate studies can advise students in what may be exciting programs for their areas.

## DEGREE REQUIREMENTS

### For a Major in Ethnicity and Race Studies

The major consists of a minimum of 28 points as follows:

1. Core Courses (11 points)
  - One of the following:
    - CSER W1040 Critical approaches to the study of ethnicity and race*
    - CSER W1000 Introduction to comparative ethnic studies*
  - *CSER W3928 Colonialism, decolonization, and the making of the modern world*
  - *CSER W3919 Modes of inquiry*
2. Specialization (13 points): students must complete at least four courses, in consultation with their major adviser, in one of following areas of specialization:
  - Asian American studies;
  - Comparative ethnic studies;
  - Latino/a studies;
  - Native American/indigenous studies
  - Individualized courses of study
3. *CSER W3990 Senior research project* (4 points)
4. Language courses: one of the following is highly recommended, although not required for the major:
  - One course beyond the intermediate-level in language pertinent to the student's focus
  - An introductory course in a language other than that used to fulfill the degree requirements, but that is pertinent to the student's focus

- A linguistics or other course that critically engages language
- An outside language and study abroad programs that include an emphasis on language acquisition.

### **For a Concentration in Ethnicity and Race Studies**

The major consists of a minimum of 23 points as follows:

1. Core Courses (11 points)
  - One of the following:
    - CSER W1040 Critical approaches to the study of ethnicity and race*
    - CSER W1000 Introduction to comparative ethnic studies*
  - *CSER W3928 Colonialism, decolonization, and the making of the modern world*
  - *CSER W3919 Modes of inquiry*
2. Specialization (12 points): students must complete at least four courses, in consultation with their major adviser, in one of following areas of specialization:
  - Asian American studies;
  - Comparative ethnic studies;
  - Latino/a studies;
  - Native American/indigenous studies
  - Individualized courses of study

# Film Studies

**Director of Undergraduate Studies:** Prof. Annette Insdorf, 513 Dodge; 854-1682;  
ai3@columbia.edu

**Departmental Office:** 513 Dodge; 854-2815

## Faculty

Loren-Paul Caplin  
Leon Falk  
Geoffrey Fletcher  
Jane Gaines  
Molly Haskell  
Annette Insdorf

Nelson Kim  
Sandra Luckow  
David McKenna  
Stephen Molton  
Richard Peña  
Marie Regan  
James Schamus

The major in film studies is scholarly, international in scope, and writing-intensive. Students choose to major in film if they want to learn more about the art form, from technology to cultural significance; want to work in the film industry; or are interested in a major that combines arts and humanities. Students usually declare the major toward the end of the second year by meeting with the departmental adviser; together, they create a program of twelve required courses within the major, supplemented by three related courses outside the department. In the lecture courses and seminars, there is often a mixed population of undergraduate majors and graduate film students.

Students have the opportunity to gain additional experience by taking advantage of internship opportunities with film companies, working on graduate student films, and participating in the Columbia Undergraduate Film Productions (CUFP), an active, student-run organization that provides filmmaking experience to Columbia undergraduate producers and directors. In addition to careers in screenwriting, directing, and producing, graduating seniors have gone on to work in film distribution, publicity, archives, and festivals, and to attend graduate school to become teachers and scholars.

The trajectory of the major is from introductory-level courses (four are required), to intermediate-level (three are required), to advanced-level (including two labs and the senior seminar), plus two electives from the approved list. Film studies majors take workshops in screenwriting and filmmaking, but the course of study is rooted in film history, theory, and culture.

The prerequisite for all classes is *Introduction to the study and theory of film*, offered each term and open to first-year students. Subsequently, majors take a combination of history survey courses; specialized courses, many of which are prerequisites to the lab courses; and advanced classes in theory, genre study, national cinemas, auteur study, screenwriting, interdisciplinary studies, and the writing of film criticism. In addition to the history, theory, and culture courses, students with a particular interest in fiction filmmaking should plan on taking *Film theory*, I followed by the *Lab in fiction filmmaking*. Students interested in nonfiction filmmaking should take The documentary tradition followed by the *Lab in nonfiction filmmaking*. Those students who wish to focus on screenwriting should take *Script analysis* followed by the *Lab in screenwriting*, the *Senior seminar in screenwriting*, and *Narrative strategies in screenwriting* in that order.

The educational goal is to provide film majors with a solid grounding in the history and theory of film; its relation to other forms of art; and its synthesis of visual storytelling, technology, economics, and sociopolitical context, as well as the means to begin writing a script and making a short film.

Via the senior seminar, each student writes a thesis reflecting mastery of cinematic criticism—which is submitted after the winter break. Students decide upon the topic with the professor and develop the essay during the fall semester.

Since film courses tend to be popular, it is imperative that students attend the first class. Registration priority is usually given to film majors and seniors.



## Departmental Honors

In order to qualify for departmental honors, students must have a GPA of at least 3.75 in the major and distinction in their overall achievements in film study. The department submits recommendations to the College Committee on Honors, Awards, and Prizes for confirmation. Normally no more than 10 percent of the graduating majors in the department each year receive departmental honors.

## DEGREE REQUIREMENTS

The major in film studies requires a minimum of 36 points distributed as described below.

### Introductory-level courses:

1. *FILM W3001, FILM W3100, FILM W3200*
2. *FILM W3201* or *FILM W3202*

### Intermediate-level courses:

1. *FILM R4005*
2. *FILM W3050* or *FILM R4098*
3. *FILM W4145* or, with approval, appropriate substitutions from other departments

### Advanced-level courses:

1. *FILM W3005*
2. *FILM W3051* or *FILM W3054*
3. *FILM W3840*
4. Two electives selected from such courses as *FILM W3300, FILM W3500, FILM W3850, FILM R4016, FILM W4054, FILM R4138, FILM W4220*

### Related courses:

At least 9 points in other departments to be chosen in consultation with the director of undergraduate studies in film studies, notably courses in art history, languages and literatures (with the exception of grammar and conversation), music, philosophy, theatre, and visual arts. The program of study should be planned before the end of the sophomore year.

### Prerequisites:

*ENGL C1007, HUMA C1001-C1002, HUMA W1123*. Prospective majors in film studies are advised to satisfy the prerequisites prior to their declaration as majors or before the end of their sophomore year.

# French and Francophone Studies

**Undergraduate Adviser:** Prof. Sylvie Lefèvre, 516 Philosophy; 854-3905;  
sl3002@columbia.edu

**Program Office:** 515 Philosophy; 854-2500 or 854-3208

## Interdepartmental Committee on French and Francophone Studies

Gil Anidjar (Religion)  
Hisham Aidi (International and Public Affairs)  
Taoufik Ben-Amor (Middle Eastern, South Asian, and African Studies)  
Barry Bergdoll (Art History)  
Susan Boynton (Music)  
Jean Cohen (Political Science)  
Matthew Connelly (History)  
Peter Connor (French, Barnard)  
Souleymane Bachir Diagne (French)  
Mamadou Diouf (History)  
Victoria de Grazia (History)  
Madeleine Dobie (French)  
Priscilla Ferguson (Sociology)  
Karen Hansen (Music)  
Irène Final-Honigan (European Institute)  
Pierre Force (French)

Serge Gavronsky (French, Barnard)  
Kaïama Glover (French, Barnard)  
Martha Howell (History)  
John Huber (Political Science)  
Annette Insdorf (Film Studies)  
Matthew Jones (History)  
Mark Kesselman (Political Science)  
Gregory Mann (History)  
Samuel Moyn (History)  
Glenda Rosenthal (European Institute)  
Emmanuelle Saada (French, chair)  
Gayatri Chakravorty Spivak (English and Comparative Literature)  
Lisa Tiersten (History, Barnard)

The major in French and Francophone studies provides an interdisciplinary framework for the study of the history, literature, and culture of France and parts of the world in which French is an important medium of culture. Students explore the history and contemporary applications of concepts such as citizenship, national unity, secularism, and human rights, and explore central issues including universalism/relativism, tradition/modernity, and religion/state as they have developed in France and its colonies/former colonies since the 18th century. Students take a series of required courses that includes *Introduction to French and Francophone Studies I and II*, French grammar and composition/stylistics, essential to achieving proficiency in French language, and *France Past and Present*. Having completed these courses they take courses in related departments/programs, e.g. history, anthropology, political science, women's studies, human rights, art history, to fulfill the interdisciplinary portion of the major. To ensure methodological focus three of these courses should be taken within a single field (e.g. history, music, anthropology, or political science), or in relation to a single issue or world region, e.g. West Africa.

Students who are interested in a more traditional French literature/language program should consider the major in French, in the French and Romance Philology section of this bulletin.

## Study Abroad

Because a direct experience of contemporary French society is an essential part of the program, majors and concentrators are strongly encouraged to spend either a semester or a year at Reid Hall-Columbia University in Paris, or at another French/francophone university. During their time abroad students take courses credited toward the major, and in some cases also toward other majors (e.g. history, art history, political science).

Qualified students may apply to the Columbia/Institut d'études politiques de Paris (Sciences-Po) five-year BA/MA program. Students interested in this opportunity should speak to their undergraduate advisers and major adviser and contact the Office of Global Programs (OGP).

For more information on study abroad visit the consult the OGP Web site at <http://www.ogp.columbia.edu>, call 854-2559 or send an e-mail to [studyabroad@columbia.edu](mailto:studyabroad@columbia.edu)

For more information a list of approved study abroad programs visit:  
<http://ogp.columbia.edu/programs/all.html>

### REID HALL, PARIS

Located at 4 rue de Chevreuse, Paris, Reid Hall is administered by Columbia University. It offers semester and year-long programs of study, as well as summer courses.

Most students who study at Reid Hall take courses offered in the French university system (e.g. at the Sorbonne, Sciences-Po) as well as core courses offered at Reid Hall. Students begin their stay at Reid Hall with a month-long French immersion program. In their first semester most students also take a course in academic writing in French that enables them to succeed at a high level in French university courses. Special Reid Hall opportunities include small joint seminars in which ten students from Reid Hall participate with ten French students in seminars devoted to topical issues.

For information on fall/spring study at Reid Hall see: [http://ogp.columbia.edu/pages/noncolumbia\\_students/index.html](http://ogp.columbia.edu/pages/noncolumbia_students/index.html)

For summer study at Reid Hall see: [http://ogp.columbia.edu/pages/noncolumbia\\_students/summer/paris/index.html](http://ogp.columbia.edu/pages/noncolumbia_students/summer/paris/index.html)

### Departmental Honors

Majors who wish to be considered for departmental honors should consult with the director of undergraduate studies. To be eligible for consideration, the student must have a grade point average of at least 3.7 in courses for the major and have completed an approved senior thesis under the guidance of a faculty member at Columbia or Reid Hall. Normally no more than 10 percent of the graduating majors in the department each year receive departmental honors.

### Undergraduate Prizes

The Department of French and Romance Philology awards the following prizes to students enrolled in French and French and Francophone studies courses:

1. Prize for Excellence in French Studies: awarded to a highly promising student in an intermediate or advanced French course
2. Senior French Prize: awarded to an outstanding graduating major

### DEGREE REQUIREMENTS

#### For a Major in French and Francophone Studies

The program of study should be planned before the end of the sophomore year with the director of undergraduate studies.

A minimum of 33 credits beyond completion of the language requirement (*FREN W1202*) distributed as follows:

1. *FREN W3405 Advanced grammar and composition*
2. *FREN W3600 France past and present*
3. *FREN W3420-W3421 Introduction to French and Francophone studies, I and II*
4. *FREN W3498* or *FREN W3200* or *FREN 3406* or *FREN W8000* or an equivalent advanced course in French language or translation

The remaining courses (18 credits) are to be chosen from upper-level offerings in departments other than French (if electives are taken at Columbia), or in disciplines other than French literature (if electives are taken during study abroad). To ensure focus, at least three of these interdisciplinary electives must fall within a single discipline of subject area. Courses must be pre-approved by the director of undergraduate studies. One of the advanced electives may be a senior essay written under the direction of a faculty member affiliated with the French and Francophone Studies committee or teaching at Reid Hall. Majors who choose to write a senior essay at Columbia should register for the senior tutorial course in their adviser's home department.

### **For a Concentration in French and Francophone Studies**

A minimum of 27 credits beyond completion of the language requirement (*FREN W1202*) distributed as follows:

1. *FREN W3405 Advanced grammar and composition*
2. *FREN W3600 France past and present*
3. *FREN W3420-W3421 Introduction to French and Francophone studies, I and II*
4. *FREN W3498* or *FREN W3200* or *FREN W3406* or *FREN W8000* or an equivalent advanced course in French language or translation.

The remaining courses (12 credits) are to be chosen from upper-level offerings in departments other than French (if electives are taken at Columbia), or in disciplines other than French literature (if electives are taken during study abroad). To ensure focus at least three of the interdisciplinary elective courses must fall within a single discipline or subject area. Courses must be pre-approved by the director of undergraduate studies.

# French and Romance Philology

**Director of Undergraduate Studies:** Prof. Sylvie Lefèvre, 516 Philosophy; 854-3905; sl3002@columbia.edu

**Director of the Language Program:** Dr. Pascale Hubert-Leibler, 519 Philosophy; 854-4819; ph2028@columbia.edu

**Academic Department Administrator:** Isabelle Chagnon, 515 Philosophy; 854-3208 or 854-2500; ic7@columbia.edu

**Departmental Office:** 515 Philosophy; 854-3208 or 854-2500

**URL:** <http://www.columbia.edu/cu/french/>

## Professors

Antoine Compagnon  
Souleymane Bachir Diagne  
Pierre Force  
Elisabeth Ladenson  
Sylvie Lefèvre

## Associate Professors

Peter Connor (Barnard)  
Madeleine Dobie  
Emmanuelle Saada  
Joanna Stalnaker  
Philip Watts

## Assistant Professor

Vincent Debaene

## Senior Lecturer

Pascale Hubert-Leibler

## Lecturers

Vincent Aurora  
Heidi Holst-Knudsen  
Sophie Queuniet

## Associates in Languages

Samuel Skippon  
Emilie Littlehales

The undergraduate major in French is intended to give students an in-depth familiarity with the language, culture, and literature of France and the French-speaking world. After completion of the four-semester language requirement students take courses in advanced grammar and composition and stylistics to refine their skills in reading, speaking, and writing French. They also undertake a comprehensive overview of the development of French literature from the Middle Ages to the present day in a required two-semester survey course. A wide choice of advanced elective courses on French literature, history, philosophy, and cinema allows students to explore a variety of intellectual interests, to perfect their critical reading skills, and to master the techniques of close reading. The capstone course of the major is the senior seminar, in which students study a range of texts and critical approaches and are encouraged to synthesize their learning in previous courses. The optional senior essay, written under the direction of a faculty member, or in an independent study during the student's stay at Reid Hall, provides students with an initiation to scholarly research. The senior essay is a requirement to be considered for departmental honors.

Students interested in French history and civilization, and in the literature and culture of the Francophone world, should consider the major in French and Francophone Studies, also administered by the French Department.

## In Fulfillment of the Language Requirement

*FREN W1101-FREN W1102* and *W1201-W1202*. Entering students are placed, or exempted, on the basis of their College Board Achievement or Advanced Placement scores, or their scores on the placement test administered by the Center for Student Advising, 403 Lerner. An SAT score of 780 or a score of 4 on the AP exam satisfy the language requirement. The Barnard course, *BC1204, Intermediate French II* does **not** fulfill the undergraduate language requirement.

## LANGUAGE PROFICIENCY COURSES

Elementary and intermediate French courses are designed to help students develop an active command of the language. In *W1101* and *W1102* the communicative approach is the main method of instruction. In addition to practicing all four language skills—listening, speaking, reading, and writing—students are introduced to the cultural features of diverse French-speaking communities. Intermediate courses,

*W1201* and *W1202*, develop further linguistic competence through the study of short stories, films, novels and plays. Upon completion of the four-semester language sequence, students are able to discuss and write in fairly proficient French on a variety of complex topics. At the third-year level attention is focused on more sophisticated use of language in grammar and composition courses and on literary, historical, and philosophical questions in literature courses. In French *W3333* and *W3334* the whole span of French literature is surveyed and students learn techniques for analyzing literature of different centuries, styles, and genres. After completion of these core courses, French majors are encouraged to follow their individual interests, and a wide range of language, literature, and cultural studies courses is available to them. Small classes and seminars allow for individual attention and enable students to work closely with faculty members.

### CONVERSATION COURSES

Students looking for intensive oral practice in French may take one of the 2-credit conversation courses offered at the intermediate and advanced levels. Conversation courses generally may not be counted toward completion of the major. The exception is the special 3 point advanced conversation course, *French cultural workshop*, offered in the fall semester which is designed to meet the needs of students planning study abroad at Reid Hall.

### Advanced Placement

The department grants 3 credits for a score of 5 on the AP French Language exam, which satisfies the foreign language requirement. Credit is awarded upon successful completion of a 3000-level (or higher) course with a grade of B or higher. This course must be for at least 3 points of credit and be taught in French. Courses taught in English may not be used for language AP credit. The department grants 0 credits for a score of 4 on the AP French Language exam, but the foreign language requirement is satisfied. The department grants 3 credits for a score of 5 on the AP French Literature exam, which satisfies the foreign language requirement. Credit is awarded upon successful completion of a 3000-level (or higher) course with a grade of B or higher. This course must be for at least 3 points of credit and be taught in French. Courses taught in English may not be used for language AP credit. The department grants 0 credits for a score of 4 on the AP French Literature exam, but the foreign language requirement is satisfied.

### Language Laboratory and On-line Materials

Language laboratories located in 116B Lewisohn Hall and in the International Affairs Building provide opportunities for intensive practice in French pronunciation and aural comprehension. French courses typically make extensive use of on-line interactive materials that students can access from their own computer terminals.

### Maison Française

Students interested in French should acquaint themselves with the Maison Française, which has a reading room containing French language newspapers, periodicals, books, and videos, and which sponsors lectures and discussions by distinguished French visitors to New York City. With its weekly French film series, book club, café-conversation and other events, the Maison Française offers an excellent opportunity for students to perfect their language skills and enhance their knowledge of French and Francophone culture in a variety of extracurricular activities that take place in a friendly, informal environment.

### Study Abroad

Because a direct experience of contemporary French society is an essential part of the program, French majors and concentrators are strongly encouraged to spend either a semester or a year at Reid Hall-Columbia University in Paris, or at another French/Francophone university. During their time abroad students take courses credited

toward the French major, and in some cases also toward other majors (e.g. history, art history, political science).

Qualified students may apply to the Columbia/Institut d'études politiques de Paris (Sciences-Po) five-year BA/MA program. Students interested in this opportunity should speak to their undergraduate advisers and major adviser and contact the Office of Global Programs (OGP).

For more information on study abroad visit the OGP Web sit at [www.ogp.columbia.edu](http://www.ogp.columbia.edu), call 854-2559 or e-mail [studyabroad@columbia.edu](mailto:studyabroad@columbia.edu).

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## REID HALL, PARIS

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For information on fall/spring study at Reid Hall see: [http://ogp.columbia.edu/pages/noncolumbia\\_students/index.html](http://ogp.columbia.edu/pages/noncolumbia_students/index.html)

For summer study at Reid Hall see: [http://ogp.columbia.edu/pages/noncolumbia\\_students/summer/paris/index.html](http://ogp.columbia.edu/pages/noncolumbia_students/summer/paris/index.html)

## GRADING

Students who wish to offer toward the major or concentration requirements a course in which a grade of D has been received must consult with the director of undergraduate studies.

## Departmental Honors

Majors who wish to be considered for departmental honors should consult with the director of undergraduate studies. To be eligible for consideration, the student must have a grade point average of at least 3.7 in courses for the major and have completed an approved senior thesis under the guidance of a faculty member at Columbia or Reid Hall. Normally no more than 10 percent of the graduating majors in the department each year receive departmental honors.

## Undergraduate Prizes

The Department of French and Romance Philology awards the following prizes to students enrolled in French/ French and Francophone Studies courses:

- Prize for Excellence in French Studies: awarded to a highly promising student in an intermediate or advanced French course
- Senior French Prize: awarded to an outstanding graduating major

## DEGREE REQUIREMENTS

### For a Major in French

The program of study should be planned before the end of the sophomore year with the director of undergraduate studies.

A minimum of 33 points beyond completion of the language requirement (*FREN W1202*) distributed as follows:

1. *FREN W3405 Advanced grammar and composition*
2. *FREN W3333-W3334 Major literary works in French before 1800 and after 1800*

3. *FREN 3600 France past and present*
4. *FREN W3498* or *FREN W3200* or *FREN W3406* or equivalent advanced course in French language or translation
5. *FREN W3995* Senior seminar
6. One upper-level course on literature before 1800
7. One course in the area of Francophone literature or culture, i.e. bearing on practices of French outside of France or on the internal cultural diversity of France

The remaining courses (9 points) are to be chosen from 3000-level offerings in French literature, linguistics, or civilization.

Certain French courses in Barnard College may be taken with the approval of the director of undergraduate studies. The following Columbia French courses are not applicable to the French major (or concentration, outlined below): *FREN W1101*, *FREN W1102*, *FREN W1201*, *FREN W1202*, *FREN W1206*, *FREN W1221*, *FREN W1222*, *FREN W3131*, *FREN W3132*.

### **For a Concentration in French**

A minimum of 27 points beyond completion of the language requirement (*FREN W1202*), including: *FREN W3405*; *FREN W3600*; *FREN W3333-W3334*; the remaining courses (15 points) to be chosen from 3000-level offerings in French literature, linguistics, or civilization.



# Germanic Languages

**Director of Undergraduate Studies:** Prof. Stefan Andriopoulos, 418 Hamilton; 854-7802; sa610@columbia.edu

**Language Instruction:** Prof. Richard Korb, 404A Hamilton; 854-2070; rak23@columbia.edu

**Departmental Office:** 414 Hamilton; 854-3202

**URL:** <http://www.columbia.edu/cu/german/>

## Professors

Mark Anderson  
Andreas Huyssen  
Harro Müller  
Dorothea von Mücke (chair)

## Associate Professors

Stefan Andriopoulos  
Jeremy Dauber (Yiddish)

## Assistant Professor

Tobias Wilke

## Distinguished Visiting Max Kade

Professor  
Günter Oesterle

## Senior Lecturer

Richard Korb

## Lecturers

Wijnie de Groot (Dutch)  
Tiina Haapakoski (Finnish)  
Miriam Hoffman (Yiddish)  
Verne Moberg (Swedish)  
Jutta Schmiers-Heller

## On Leave

Profs. Andriopoulos and Dauber for the  
spring semester  
Profs. Huyssen and Wilke for the academic  
year

The Department of Germanic Languages and Literatures is considered one of the very best in the country. Many of the faculty specialize in the study of German literature and culture from 1700 to the present. German majors acquire proficiency in examining literary, philosophical, and historical texts in the original, as well as critical understanding of modern German culture and society. Particular attention is given to German-speaking traditions within larger European and global contexts. Courses taught in translation build on Columbia's Core Curriculum, thereby allowing students to enroll in upper-level seminars before completing the language requirement.

All classes are taught as part of a living culture. Students have ample opportunities to study abroad, to work with visiting scholars, and to take part in the cultural programs at Deutsches Haus. In addition, the department encourages internships with German firms, museums, and government offices. This hands-on experience immerses students in both language and culture, preparing them for graduate study and professional careers.

Upon graduation, German majors compete successfully for Fulbright or DAAD scholarships for research in Germany or Austria beyond the B.A. degree. Our graduating seniors are highly qualified to pursue graduate studies in the humanities and social sciences, as well as professional careers. Former majors and concentrators have gone on to careers in teaching, law, journalism, banking and consulting, international affairs, and communications.

German literature and culture courses are taught as seminars integrating philosophical and social questions. Topics include romanticism, revolution, and national identity; German intellectual history; minority literatures; Weimar cinema; German-Jewish culture and modernity; the Holocaust and memory; and the history and culture of Berlin. Classes are small, with enrollment ranging from 5 to 15 students.

The department regularly offers courses in German literature and culture in English for students who do not study the German language. We also participate in Columbia's excellent program in Comparative Literature and Society.

## Advanced Placement

The department grants 3 credits for a score of 5 on the AP German Language exam, which satisfies the foreign language requirement. Credit is awarded upon successful

completion of a 3000-level (or higher) course with a grade of B or higher. This course must be for at least 3 points of credit and be taught in German. Courses taught in English may not be used for language AP credit. The department grants 0 credits for a score of 4 on the AP German Language exam, but the foreign language requirement is satisfied.

### **The Yiddish Studies Program**

The program in Yiddish studies offers a track in both the undergraduate major and concentration, in addition to graduate studies leading to the Ph.D. The graduate program is considered one of the world's most important, with its graduates holding many of the major university positions in the field. In both the undergraduate and graduate program, emphasis is placed not merely on acquiring linguistic proficiency and textual study, but also viewing Yiddish literature in a larger cultural and interdisciplinary context.

Students work with faculty in Germanic languages, Jewish studies, history, and Slavic studies to broaden their understanding of the literature, language, and culture of Eastern European Jewry. Classes are small, and instruction is individualized and carefully directed to ensure that students gain both a thorough general grounding and are able to pursue their own particular interests in a wide-spanning field. The program also offers classes taught in translation for students who do not study the Yiddish language.

### **The German Language Program**

First- and second-year German Language courses emphasize spoken and written communication, and provide a basic introduction to German culture. Goals include mastery of the structure of the language and enough cultural understanding to interact comfortably with native speakers.

Upon the successful completion of the elementary German *GERM V1101-V1102* sequence, students will be able to provide information about themselves, their interests, and daily activities. They can participate in simple conversations, read edited texts, and understand the main ideas of authentic texts. By the end of elementary German II, students are able to write descriptions, comparisons, and creative stories, and to discuss general information about the German-speaking countries.

Intermediate German *GERM V1201-V1202* increases the emphasis on reading and written communication skills, expands grammatical mastery, and focuses on German culture and literary texts. Students read short stories, a German drama, and increasingly complex texts. Regular exposure to video, recordings, the World Wide Web, and art exhibits heightens the cultural dimensions of the third and fourth semesters. Students create portfolios comprised of written and spoken work.

Upon completion of the second-year sequence, students are prepared to enter advanced courses in German language, culture, and literature at Columbia and/or at the Berlin Consortium for German Studies in Berlin. Advanced-level courses focus on more sophisticated use of the language structure and composition (*GERM V3001-V3002 Advanced German*), on specific cultural areas (e.g., *GERM W3220 Berlin: past and present*, or *GERM W4090 German for international and public affairs*), and on literary, historical, and philosophical areas in literature-oriented courses (*GERM W3333 Introduction to German literature and culture*).

### **In Fulfillment of the Language Requirement in German**

*Courses: GERM V1101-V1102 and V1201-V1202.*

Entering students are placed, or exempted, on the basis of their College Board Achievement or Advanced Placement scores, or their scores on the placement test administered by the departmental language director. Those students who need to take the *GERM V1201-V1202* sequence may take *GERM V1120* as preparation for *GERM V1201*.

## University Study in Berlin

The Berlin Consortium for German Studies provides students with a study abroad program, administered by Columbia, which includes students from the other consortium member schools (Princeton, Yale, University of Pennsylvania, Johns Hopkins, and the University of Chicago). Under the guidance of a senior faculty member, the program offers a home stay with a German family, intensive language instruction, and study in regular German university courses at the Freie Universität Berlin. For additional information on the Berlin Consortium, see the Special Programs section in this bulletin or consult the program office in 606 Kent Hall; (212) 854-2559; [berlin@columbia.edu](mailto:berlin@columbia.edu). It is also available on-line at <http://www.ce.columbia.edu/op/>. For additional information on courses and their applicability to the major or concentration, consult the director of undergraduate studies.

## Deutsches Haus

Deutsches Haus, 420 West 116th Street, provides a center for German cultural activities on the Columbia campus. It sponsors lectures, film series, and informal gatherings that enrich the academic programs of the department. The library contains a large collection of modern German books and a selection of current German periodicals. Frequent events throughout the fall and spring terms offer students opportunities to practice their language skills.

## Grading

Courses in which a grade of D has been received do not count toward the major or concentration requirements.

## Departmental Honors

For the requirements for departmental honors, see the director of undergraduate studies.

## DEGREE REQUIREMENTS

### For a Major in German Literature and Cultural History

The goal of the major is to provide students with reasonable proficiency in reading a variety of literary, philosophical, and historical texts in the original and, through this training, to facilitate a critical understanding of modern German-speaking cultures and societies. Students should plan their program of study with the director of undergraduate studies as early as possible. Competence in a second foreign language is strongly recommended, especially for those students planning to attend graduate school.

A minimum of 30 points is required, distributed as follows:

### REQUIRED COURSES:

1. *GERM V3001* or *GERM V3002*
2. *GERM W3333*
3. Any two of the survey courses in German literature and culture, *GERM W3442*, *GERM W3443*, *GERM W3444*, *GERM W3445*; (at least one of these must focus on pre-20th-century cultural history)
4. One course in German intellectual history
5. *GERM C3991* is required of all majors in their senior year, but may also be taken as a seminar by juniors
6. The remaining courses to be chosen from the 3000- or 4000-level offerings in German and Comparative Literature–German

### SENIOR THESIS:

A senior thesis is not required for the major. Students interested in a senior thesis or research project may do so through independent study with a faculty member over one or two semesters.

### **For the Track in Yiddish Studies**

First- and second-year Yiddish language courses emphasize spoken and written communication, and provide a basic introduction to Eastern European Jewish culture. Goals include mastery of the structure of the language and enough cultural understanding to interact comfortably with native speakers.

After second-year Yiddish language courses are completed, students should feel sufficiently comfortable to begin to work with Yiddish literature in the original. Upper-level undergraduate/graduate courses are designed to accommodate students with a range of Yiddish language experience, and intensive language summer study are also encouraged for improvement in language acquisition and comprehension.

The goal is to provide students with reasonable proficiency in reading a variety of literary, philosophical, and historical texts in the original and, through this training, to provide them with a critical understanding of Yiddish-speaking culture and society. Students should plan their program of study with the director of undergraduate studies as early as possible.

A minimum of 30 points is required distributed as follows:

1. At least three courses of intermediate/advanced language study (9 pts)
2. Two courses in Yiddish literature, at least one of which is not taught in translation (6 pts)
3. One course in the senior seminar or independent study (3 pts)
4. Four related courses, at least one of which is in medieval or modern Jewish history (12 pts)

A senior thesis is required for the track in Yiddish studies. Students interested in a senior thesis or research project may do so through independent study with a faculty member over one or two semesters.

### **For a Concentration in German Literature and Cultural History**

24 points in German courses numbered *GERM V3001* and above, including the senior seminar *GERM C3991*, which may be taken in the junior or senior year, and 12 points from other departments in language, literature, art history, European history, music, and philosophy.

### **For the Track in Yiddish Studies**

24 points distributed as follows:

1. At least three courses of beginning/intermediate language study (9 pts)
2. Two courses in Yiddish literature (6 pts)
3. Three related courses, at least one of which is in medieval or modern Jewish history (9 pts)

# History

**Director of Undergraduate Studies:** Prof. Richard Billows, 322M Fayerweather; 854-4486;  
rab4@columbia.edu

**Undergraduate Administrator:** sw2661@columbia.edu

**Departmental Office:** 413 Fayerweather; 854-4646

**URL:** <http://www.columbia.edu/cu/history/>

## Professors

Charles Armstrong  
Karen Barkey (Sociology)  
Volker Berghahn  
Richard Billows  
Elizabeth Blackmar  
Casey Blake  
Alan Brinkley  
Christopher Brown  
Richard Bulliet  
Elisheva Carlebach  
Mark Carnes (Barnard)  
John Coatsworth (School of International and  
Public Affairs)  
Matthew Connelly  
Victoria de Grazia  
Mamadou Diouf (MELAC)  
Nicholas Dirks (Anthropology)  
Barbara Fields  
Eric Foner  
Carol Gluck  
William Harris  
Martha Howell  
Robert Hymes (EALAC)  
Kenneth Jackson  
Ira Katznelson (Political Science)  
Joel Kaye (Barnard)  
Alice Kessler-Harris  
Rashid Khalidi  
Dorothy Ko (Barnard)  
Adam Kosto  
William Leach  
Mark Mazower (chair)  
Robert McCaughey (Barnard)  
Jose Moya (Barnard)  
Samuel Moyn  
Mae Ngai  
Susan Pedersen  
Pablo Piccato  
Rosalind Rosenberg (Barnard)  
David Rosner (Public Health)  
David Rothman (Medicine)  
Simon Schama (University Professor)  
Herbert Sloan (Barnard)  
Pamela Smith  
Robert Somerville (Religion)  
Michael Stanislawski  
Anders Stephanson  
Lisa Tiersten (Barnard)  
Deborah Valenze (Barnard)

## Professors (continued)

Marc Van de Mieroop  
Madeleine Zelin (East Asian Languages and  
Cultures)

## Associate Professors

Janaki Bakhle  
Lisbeth Brandt (East Asian Languages and  
Cultures)  
Marwa Elshakry  
Evan Haefeli  
Matthew Jones  
Eugenia Lean (East Asian Languages and  
Cultures)  
Feng Li (East Asian Languages and Cultures)  
Gregory Mann  
Adam McKeown  
Gregory Pflugfelder (East Asian Languages  
and Cultures)  
Anupama Rao (Barnard)  
Samuel Roberts

## Assistant Professors

Tarik Amar  
Rebecca Kobrin  
Natasha Lightfoot  
David Lurie (East Asian Languages and  
Cultures)  
Marco Maiuro  
Christine Philliou  
Caterina Pizzigoni  
Neslihan Senocak  
Rhiannon Stephens  
Gray Tuttle (East Asian Languages and  
Cultures)  
Emma Winter

## On Leave

Profs. Armstrong, Berghahn, Brinkley,  
Haefeli, Howell, Kobrin, Milanich,  
Pedersen, Roberts, Rosenberg, Rosner,  
Valenze for the academic year.  
Profs. Connelly, de Grazia, Gluck, Lean,  
Rao, Harris, Katznelson, Rothman,  
Stanislawski, Stephanson, Tuttle for the  
fall semester.  
Profs. Khalidi, Mann, Maiuro, McKeown,  
Moyn, Philliou, Sloan, Tiersten, Zelin for  
the spring semester

The history curriculum covers most areas of the world and most periods of written history. It encourages students to develop historical understanding in the widest sense of the word: a thorough empirical grasp along with the kind of analytical skills that come with a genuinely historical sensibility. This is done through two types of

courses: lectures and seminars. Lectures range from broad surveys of the history of a place or period to more thematically oriented courses. Seminars offer students the opportunity to work more closely with historical sources in smaller groups and to do more sophisticated written work. Because history courses usually have no prerequisites, there are no preordained sequences to follow. It is advisable, however, that students take a relevant lecture course in preparation for a seminar. Majors wishing to follow a more intensive program are advised to enroll in a historiography course and to undertake a senior thesis project. Historically, majors have pursued careers in a very wide range of areas including medicine, law, mass media, Wall Street, and academia.

### **Advanced Placement**

Students may receive 3 credits toward the degree for a score of 5 on the AP European History exam or the AP United States History exam. No points count toward or fulfill any requirements of the History major or concentration.

### **Advising**

During their junior and senior years, majors and concentrators are advised by the faculty members of the Undergraduate Education Committee (UNDED). UNDED advisers also review and sign Plan of Study (POS) forms for majors/concentrators at least once per year. POS forms track students' progress toward completing all major/concentrator requirements. New history majors/concentrators may see any member of UNDED. For the most up-to-date information on UNDED members, please see the undergraduate advising page of the department website at <http://www.columbia.edu/cu/history>.

Majors and concentrators can also receive pure academic interest advising (non-requirement advising) from any faculty member and affiliated faculty member of the department.

First-years and sophomores considering a history major or concentration can seek advising from UNDED or any other faculty member.

For questions about requirements, courses, or the general program, majors and concentrators can also contact the undergraduate administrator.

### **Departmental Honors**

To be eligible, the student must have a grade point average of at least 3.6 in courses for the major, an ambitious curriculum, and an outstanding senior thesis. Honors are awarded on the basis of a truly outstanding senior thesis. Normally no more than 10 percent of the graduating majors in the department each year may receive departmental honors.

### **Course Numbering**

Courses are numbered by type and field:

1000 level: Introductory survey lecture

3000 level: Lecture

4000 level: Undergraduate seminar

x000-x059: Ancient

x060-x099: Medieval

x100-x199: Early modern Europe

x200-x299: East Central Europe

x300-x399: Modern Western Europe

x400-x599: United States

x600-x659: Jewish

x660-x699: Latin America

x700-x759: Middle East

x760-x799: Africa

x800-x859: South Asia

x860-x899: East Asia

x900-x999: Research, historiography, and trans-national

## Seminars

Seminars are integral to the undergraduate major in history. In these courses, students develop research and writing skills under the close supervision of a faculty member. Enrollment is normally limited to approximately 15 students. In order to maintain the small size of the courses, admission to seminars is by prior application.

In conjunction with the Barnard History Department and other departments in the University (particularly East Asian Languages and Cultures), the History Department offers about 25 seminars each semester that majors may use to meet their seminar requirements. While there are sufficient seminars offered to meet the needs of majors seeking to fulfill the two-seminar requirement, given the enrollment limits, students may not always be able to enroll in a particular seminar. Students should discuss with UNDED their various options for completing the seminar requirement.

The History Department has developed an on-line application system for seminars. The department regularly provides declared majors and concentrators with information on upcoming application periods, which typically occur midway through the preceding semester. Students majoring in other fields, or students who have not yet declared a major, must inform themselves of the application procedures and deadlines by checking the undergraduate seminar page of the department website.

## DEGREE REQUIREMENTS

### For a Major in History

For a major in history, students must complete 29 points in the department, of which 13 or more must be in an area of specialization. Students must fulfill a breadth requirement by taking three courses outside of their own specialization. The breadth requirement itself has two parts, time and space, which are explained below. Two of the courses taken in the major must be seminars, at least one of which must be in the area of specialization. The requirements of the undergraduate program encourage students to do two things:

1. Develop a deeper knowledge of the history of a particular time and/or place. Students are required to complete a specialization by taking a number of courses in a single field of history of their own choosing. The field should be defined, in consultation with a member of the Undergraduate Education Committee (UNDED), according to geographical, chronological, and/or thematic criteria. A student might choose to specialize in "20th-century U.S. history," "European diplomatic history," "Ancient Roman history," or "Modern East Asian history." The specialization does not appear on the student's college transcript but provides an organizing principle for the program the student assembles in consultation with UNDED.
2. Gain a sense of the full scope of history as a discipline by taking a broad range of courses. Students must fulfill a breadth requirement by taking courses outside their own specialization, at least one course far removed in time and two removed in space.
  - Time: majors must take at least one course removed in time from their specialization. Any students specializing in the modern period must take one course specifically covering the pre-modern period (before 1750) and students specializing in a pre-modern field must take at least one course in the modern period.
  - Space: majors must take two additional courses in a regional field or fields not their own (of which one is in a hemisphere distinct from that of the specialization). Students specializing in Europe or the Americas must take one of their breadth courses in either Asia, the Middle East, or Africa, and vice versa.

Some courses cover multiple geographic regions. If a course includes one of the regions within a student's specialization, that course cannot count towards the breadth requirement unless it is specifically approved by the director of undergraduate studies. For example, if a student is specializing in "20th-century U.S. history" and takes the class "World War II," the class is too close to the specialization and may not count as a breadth course in Asian or European history.

All courses in the Barnard History Department as well as certain courses in East Asian Languages and Cultures; Middle Eastern, South Asian, and African Studies; and select other departments count toward the major. These courses are listed under the courses tab in the History Department section of the on-line Bulletin. Other courses, however historical in approach or content, do not count toward the history major or concentration, except with the explicit written approval of the chair of UNDED.

### THEMATIC SPECIALIZATIONS

Suitably focused thematic and cross-regional specializations are permitted and the breadth requirements for students interested in these topics are set in consultation with a member of UNDED. Classes are offered in fields including, but not limited to:

- Ancient history
- Medieval history
- Early modern European history
- Modern European history
- United States history
- Latin American and Caribbean history
- Middle Eastern history
- East Asian history
- South Asian history

Additionally, classes are offered in thematic and cross-regional fields which include, but are not limited to:

- Intellectual history
- Jewish history
- Women's history
- International history
- History of science

These fields are only examples. Students should work with a member of UNDED to craft a suitably focused specialization on the theme or field that interests them.

### THESIS REQUIREMENTS

The year-long *Senior thesis seminar* (HIST C4398-C4399) carries 8 points, 4 of which typically count as a seminar in the specialization. Students are encouraged to take HIST W4900, *The historian's craft*, for a more intensive study of historiography. HIST W4900 does not count toward the specialization or toward the breadth requirements. For the most up-to-date information on the field designations for history courses, please see the Courses section of the department website.

### For a Concentration in History

Concentrators must take at least 21 points in history, with 9 points in an area of specialization, one course far removed in time, and one course on a geographic region far removed in space. There is no seminar requirement for concentrators.

### Additional Information

For detailed information about the history major or concentration, as well as the policies and procedures of the department, please refer to the department's Undergraduate Handbook.



# History and Philosophy of Science

## History and Philosophy of Science

David Albert  
Philosophy  
706 Philosophy  
(212) 854-3519

Walter Bock  
Biology  
1106 Schermerhorn;  
(212) 854-448

George Saliba  
Middle Eastern, South Asian,  
and African Studies  
604 Kent  
(212) 854-4166

The University gives a number of courses in the history and philosophy of science, although it does not at this time offer a major or concentration to undergraduates in Columbia College. The course listings bring together a variety of courses from different disciplines, which should be of interest to anyone wishing to pursue work in the history and philosophy of science. The list is not intended to be all inclusive; students interested in the history and philosophy of science should speak to members of the committee.

# Human Rights

**Director of Undergraduate Studies:** Prof. Andrew Nathan, 931 IAB; 854-6909;  
 ajn1@columbia.edu  
 Program Office: Institute for the Study of Human Rights; 91 Claremont Avenue, 7th Floor;  
 854-2479;

**URL:** <http://hrcolumbia.org/undergraduate/>

Human rights are central to contemporary understandings of justice and equality, and have crucial bearing on the ability to assess and respond to emerging technological, economic, social, and political issues.

The Undergraduate Human Rights Program at the Institute for the Study of Human Rights seeks to engage students in this dynamic and evolving field and enhance their knowledge, skills, and commitment to human rights.

The program offers a major and a concentration in human rights, provides students the opportunity to deepen their knowledge and explore their interests in human rights outside the classroom, and works to strengthen and support the undergraduate human rights community on campus.

For additional information on the Institute for the Study of Human Rights and its human rights education programs, please go to: <http://hrcolumbia.org/academic/>

## DEGREE REQUIREMENTS

### For a Major in Human Rights

The major in human rights requires 32 total credits as described below.

In addition to the senior seminar class, one additional course must be a seminar.

### ENTRY AND EXIT COURSES (7 CREDITS)

1. *HRTS V3011 Introduction to human rights* (3 credits)
2. *HRTS W3930 International humanitarian law and human rights* (3 credits)
3. *HRTS W3996 Senior seminar in human rights* (4 credits)

### CORE REQUIREMENTS (12-13 CREDITS)

Students should take one course in three of the four categories:

1. Politics and History
2. Culture and Representation
3. Political Theory and Philosophy
4. Social and Economic Processes

Please see ISHR's course list for the most up-to-date list of courses that fulfill the core requirements.

### SPECIALIZATION (12-13 CREDITS)

Students are encouraged to fulfill the specialization requirement by focusing on a particular discipline, taking four courses offered by a single department.

Students may also fulfill the specialization requirement by focusing on a particular region or theme, such as gender or development. Students who wish to complete their specialization requirement through this track option must obtain approval from the director of undergraduate studies.

## For a Concentration in Human Rights

*These requirements apply to all students who were not enrolled in the special concentration in human rights as of the Spring 2011 semester.*

The concentration in human rights requires 25 total credits as described below.

1. *HRTS V3011 Introduction to human rights*
2. Seven additional human rights courses

One of these seven courses must be a seminar course.

For a list of pre-approved concentration courses, students should consult ISHR's course list, which is updated each semester.

Students also have the track option for completing course requirements. Examples of specific tracks include, but are not limited to human rights as it relates to: conflict, cultural studies, economic development, gender, health, law, migration, philosophy, political systems, race and ethnicity, and religion. Students can also focus on a particular region or country. Students who would like to pursue this option must consult with the program.

Up to two concentration courses may also count toward the student's major, another concentration, or minor. However, students should also consult with their academic advisers to confirm the specific policies of their particular major or second concentration. Students may also be able to count up to three courses from institutions other than Columbia, such as study abroad programs, towards the concentration. One course can be taken as a Pass/D/Fail, but all others must be taken for a letter grade.

## For a Special Concentration in Human Rights

*These requirements apply to all students who were enrolled in the special concentration in human rights as of the Spring 2011 semester.*

The special concentration in human rights requires 22 total credits as described below.

### CORE COURSES (7 CREDITS)

1. *HRTS V3011 Introduction to human rights*
2. *HRTS W3996 Senior seminar in human rights*

### FIVE ADDITIONAL HUMAN RIGHTS COURSES

For a list of pre-approved concentration courses, students should consult ISHR's course list.

Students also have the option of completing this requirement by taking four courses in a particular track. Examples of specific tracks include, but are certainly not limited to human rights as it relates to: conflict, cultural studies, economic development, gender, health, law, migration, philosophy, political systems, race and ethnicity, and religion. Students can also focus on human rights within a particular region or country. Students who would like to pursue this option must consult with the department.

Students may also be able to count up to three courses from institutions other than Columbia, such as study abroad programs, towards the special concentration. One course can be taken as a Pass/D/Fail, but all others must be taken for a letter grade.

# Italian

**Director of Undergraduate Studies:** Prof. Jo Ann Cavallo, 514 Hamilton; 854-4982;  
jac3@columbia.edu

**Director of the Language Instruction Program:** Barbara Spinelli, 512 Hamilton; 854-0748;  
bs2165@columbia.edu

**Departmental Office:** 502 Hamilton; 854-2308

**URL:** <http://www.columbia.edu/cu/italian/>

## Professors

Teodolinda Barolini (Chair)  
Elizabeth Leake  
Paolo Valesio

## Senior Lecturers

Maria Luisa Gozzi  
Barbara Spinelli  
Carol Rounds (Hungarian)

## Associate Professors

Jo Ann Cavallo  
Nelson Moe (Barnard)

## Lecturers

Felice Italo Beneduce  
Patrizia Palumbo  
Federica Franze  
Alessandra Saggin

A major in Italian offers students the opportunity to study Italian literature and culture in an intimate, seminar setting with the close supervision of the department's faculty. The department offers the major or concentration on two tracks: Italian literature and Italian cultural studies. Both programs include a prerequisite and a corequisite sequence of language courses designed to give students a command of written and spoken Italian.

The major in Italian literature exposes students to some of the key authors and works in Italian literature from the Middle Ages to the present. The basic required sequence (*ITAL V3333-V3334*) provides an overview of major authors and works in the Italian literary tradition. Students select an additional five courses from the department's offerings in Italian literature. The four related courses, to be chosen in consultation with the director of undergraduate studies, help students to connect their study of Italian literature to other fields of European literature and culture.

The major in Italian cultural studies provides students with the opportunity to explore diverse aspects of Italian culture from the Middle Ages to the present. The basic required sequence (*ITAL W4502-W4503*) is an interdisciplinary investigation into Italian culture since national unification in 1860. In consultation with the director of undergraduate studies, students select an additional five courses from the department's 3000- or 4000-level offerings or from other humanities and social science departments with a focus on Italian culture. The four related courses, also chosen in consultation with the director of undergraduate studies, help students to connect their study of Italian culture to other fields of European culture and history.

Highly motivated students have the opportunity to pursue a senior thesis or tutorial project under the guidance of a faculty adviser in an area of Italian literature or culture of their choosing. The thesis tutorial (*ITAL V3993*) counts for three points and can be substituted for one of the five aforementioned courses.

Departmental courses taught entirely in English do not have linguistic prerequisites and students from other departments who have interests related to Italian culture are especially welcome.

Italian language instruction employs a communicative approach that integrates speaking, reading, writing, and listening. Courses make use of materials that help students to learn languages not just as abstract systems of grammar and vocabulary but as living cultures with specific content. Across the levels from elementary to advanced, a wide range of literary, cultural, and multimedia material, including books, film, and opera, supplement the primary course text. The sequence in elementary and intermediate Italian enables students to fulfill the College's foreign language requirement and thoroughly prepares them for advanced study of language (*ITAL V3335-V3336*) and for literature courses taught in Italian. Specialized language courses allow students to develop their conversational skills. For highly motivated

students, the department offers intensive elementary and intensive intermediate Italian, both of which cover a full year of instruction in one semester. Courses in advanced Italian, although part of the requirements for a major in Italian literature or cultural studies, are open to any qualified students whose main goal is to improve and perfect their competence in the language. It is recommended that advanced undergraduate students take one of the following composition courses: *ITAL W4000 Stylistics*; *ITAL W4012 Laboratorio di scrittura*; or *ITAL W4018 Laboratorio di traduzione*, if they are considering graduate studies in Italian or a career that requires superior command of spoken and written Italian.

### Advanced Placement

The department grants 3 credits for a score of 5 on the AP Italian Language exam, which satisfies the foreign language requirement. Credit is awarded upon successful completion of a 3000-level (or higher) course with a grade of B or higher. This course must be for at least 3 points of credit and be taught in Italian. Courses taught in English may not be used for language AP credit. The department grants 0 credits for a score of 4 on the AP Italian Language exam, but the foreign language requirement is satisfied.

### Casa Italiana

A wide range of cultural programs is sponsored by the Italian Academy for Advanced Studies in America, located in Casa Italiana. These programs, which include the *Italian Poetry Review*, the *Columbia Seminar on Modern Italian Studies*, and the *Italian Academy Film Festival*, enrich the learning experience of the student and offer opportunities to meet distinguished Italian and Italian-American visitors to the University. The Paterno book collection is housed in Butler Library and contains valuable resources on Italian literature and culture.

### Language Resource Center

The Language Resource Center (LRC) provides resources for intensive practice in pronunciation, diction, and aural comprehension of some twenty-five modern languages. LRC exercises are closely coordinated with the classroom work.

Coordinated tape programs and on-line audio are available and mandatory for students registered in elementary and intermediate Italian language courses. Taped exercises in pronunciation and intonation as well as tapes of selected literary works are also available to all students in Italian courses.

### Electronic Classrooms

Language instruction courses meet at least once a week in a multimedia-equipped electronic classroom in order to facilitate exposure to Italian arts such as music, opera, and film, and for other pedagogical uses.

### Departmental Honors

Majors in Italian literature or Italian cultural studies who wish to be considered for departmental honors in Italian must (1) have at least a 3.6 GPA in their courses for the major and (2) complete a senior thesis or tutorial and receive a grade of at least A– within the context of the course *ITAL V3993*. Normally, departmental honors are awarded to no more than one graduating senior.

### DEGREE REQUIREMENTS

The courses in the Department of Italian are designed to develop the student's proficiency in all the language skills and to present the literary and cultural traditions of Italy. The program of study is to be planned as early as possible with the director of undergraduate studies. Students are advised to meet with the director of undergraduate studies each semester in order to obtain program approval.

For students with no knowledge of Italian the required language course sequence is *ITAL V1101-V1102* and *ITAL V1201-V1202*. For students planning to enroll in Intensive Italian courses a minimum of three semesters of Italian language instruction

is required such as: *ITAL V1121*, *ITAL V1201*, *ITAL V1202* or *ITAL V1101*, *ITAL V1102*, *ITAL V1203* or *ITAL V1121*, *ITAL V1203*, and one of the following *ITAL V3333*, *ITAL V3334*, *ITAL V3335*. Italian language proficiency equivalent to the elementary and intermediate sequence may be demonstrated by the departmental placement test, offered before the start of every semester, or with a score of 4 or 5 on the Advanced Placement Examination, or with a score of 780 or higher on the SAT II Subject Test in Italian. As noted above, courses given entirely in English do not have linguistic prerequisites; students planning a major in Italian may enroll in such courses before completing the language prerequisite to the major or concentration.

## **For a Major in Italian Literature**

### **REQUIREMENTS**

At least 30 points in Italian courses numbered above *ITAL V1302*, to include the survey of Italian literature *ITAL V3333-V3334*, either the senior thesis/tutorial *ITAL V3993*, or another course in Italian literature or culture. The advanced sequence *ITAL V3335* and *ITAL V3336* or *ITAL V3337* is also required and is counted towards the 30 points for the major. Native speakers and students with superior proficiency (as demonstrated by a departmental exam) may replace the advanced sequence with 6 points of Italian literature courses of their choice.

### **PERIOD DISTRIBUTION**

At least two courses that cover material before 1700 and two courses that cover material after 1700.

### **RELATED COURSES**

Majors must also complete at least 12 points from courses taken in other humanities and/or social science fields to be chosen in consultation with the director of undergraduate studies.

Study in another foreign language is strongly recommended, especially for those students planning to attend graduate school.

## **For a Major in Italian Cultural Studies**

### **REQUIREMENTS**

At least 30 credits in Italian courses numbered above *ITAL V1302*, to include the Italian cultural studies sequence *ITAL W4502-W4503*, at least two other courses from the department's *W4000*-level offerings, either the Senior thesis/tutorial *ITAL V3993*, or another course in Italian literature or culture. The advanced Italian sequence *ITAL V3335* and *ITAL V3336* or *ITAL V3337*. Native speakers and students with superior proficiency (as demonstrated by a departmental exam) may replace the Advanced sequence with 6 credits of Italian literature courses of their choice.

### **PERIOD DISTRIBUTION**

At least two courses that cover material before 1700 and two courses that cover material after 1700.

### **RELATED COURSES**

At least 12 points (as for the Italian literature major, see above).

## **For a Concentration in Italian Literature**

At least 24 points in Italian courses numbered above *ITAL V1302*, to include *ITAL V3333-V3334*, *ITAL V3335*, and *ITAL V3336* or *ITAL V3337*. In addition, students must complete at least 12 points in related courses (as for the Italian literature major).

## **For a Concentration in Italian Cultural Studies**

At least 24 points in Italian courses numbered above *ITAL V1302*, to include *ITAL V3335* and or *ITAL W4502-W4503*, and at least two other courses from the

department's *W4000*-level offerings. In consultation with the director of undergraduate studies, the remaining courses may be chosen from the department's *3000*- or *4000*-level offerings or from other humanities and social science departments with a focus on Italian culture. In addition, students must complete at least 12 points in related courses (as for the Italian cultural studies major).

# Jazz Studies

**Director:** Prof. John Szwed, 612 Dodge; 851-1633; [jfs54@columbia.edu](mailto:jfs54@columbia.edu)

**Director of Jazz Performance:** Prof. Christopher Washburne, 816D Dodge; 854-9862; [cjw5@columbia.edu](mailto:cjw5@columbia.edu)

**Program Administrator:** Yulanda Denoon, 602 Philosophy; 851-1633; [jazz@columbia.edu](mailto:jazz@columbia.edu)

**The Center for Jazz Studies:** Prentiss Hall, 4th floor (632 W. 125th St.); 851-1633

**URL:** Center for Jazz Studies: <http://www.columbia.edu/cu/cjs>

Jazz at Columbia: <http://www.music.columbia.edu/~ccenter/JazzConcentration>

## Interdepartmental Committee on Jazz Studies

Ann Douglas  
English and Comparative Literature

Brent Hayes Edwards  
English and Comparative Literature

Aaron Fox  
Music

Farah Jasmine Griffin  
English and Comparative Literature

George Lewis  
Music

Robert G. O'Meally  
English and Comparative Literature

Christopher Washburne  
Music

**Louis Armstrong Visiting Professor**  
William Lowe

**Adjunct Lecturers in Jazz Performance**  
Paul Bollenbeck  
Brad Jones  
Tony Moreno  
Don Sickler  
Ben Waltzer  
Steve Wilson

The special concentration in jazz studies is an interdisciplinary liberal arts course of study that uses jazz music—and the jazz culture from which the music emanated—as a prism through which to study jazz culture during what might be termed the long jazz century, the sprawling twentieth. The curriculum in this new field guides students in developing a firm grounding in the traditions and aesthetic motives of jazz music, viewed through the perspectives of music history and ethnomusicology as well as literary theory and cultural studies. It also explores in depth the development of jazz-oriented art works in the music's sister arts—literature, dance, painting, photography, and film. And while a U.S. focus is highly appropriate, considering the many ways in which jazz is a definitive music of this nation, students also explore jazz's geographical history beyond these shorelines, including complex, ongoing interactions with Africa, the Caribbean, Europe, and Asia.

The special concentration in jazz studies is designed for music majors as well as for those majoring in other fields. The main difference here between music majors and non-music majors is that while music majors take advanced courses in arranging, composition, and transcription, others are required to take an introduction to music fundamentals. While there are some fields where the fit with jazz studies is very obvious—music, American studies, African-American studies, English, comparative literature, history—special concentrators can major in any field whatsoever. Is there a jazz or improvisatory philosophy? What might be its relation to studies of aesthetics or American pragmatism? And what are jazz's implications for the student of law? How does one protect the intellectual property rights of an improvised jazz solo? What about business? What economic and political forces have shaped jazz? Who buys jazz? What is its audience? What is a jazz painting? A jazz novel? What is jazz poetry? What is jazz dance? What is a jazz film? What are the sources and meanings of art? What work does the music do for the whole community?

Along with problems of musical history, form, and definition, our special courses explore jazz as a culture. Students not only study individual jazz artists but also explore the immeasurably variegated worlds through which such artists moved, and which they helped to shape. As cultural historians-in-training—focused on questions



of nationality, race, sexuality, gender, economics, and politics—students explore the extraordinarily complicated terrains of the New Orleans of Bunk Johnson, for example, or the Baltimore of Billie Holiday (born in Philadelphia, reared in Baltimore). They explore such artists' other geographical travels. What did their images, including mistaken conceptions of who they were, tell us about the cultures that mythologized them?

How did these jazz musicians influence not only musicians but other artists of their era and milieu: the poets and novelists, painters and sculptors, photographers and filmmakers, dancers and choreographers who regularly heard them play and often shared with them a sense of common project? One thinks of Tito Puente, working with singers and dancers at the Palladium; Jackson Pollack dancing to the music as he spun drips of paints on canvasses placed on the studio floor; Langston Hughes writing detailed instructions to the musicians he hoped would accompany performance of his poetry; Romare Bearden's beautifully turned stage and costume designs for Alvin Ailey and Dianne McIntyre, whose improvisatory jazz dance workshop was called Sound in Motion; the drummer Jo Jones in an interview naming as key influences a series of tap dancers he admired; of Stanley Crouch, stirring in his high-powered essays in a room where jazz drums stand at the center, the old dream-kit inspiration; Ralph Ellison, who kept in touch with his beginnings as a musician in Oklahoma City through hour-long conversations with his childhood friend the singer Jimmy Rushing; Toni Morrison reading her magical prose to improvisations by Max Roach and the dancer Bill T. Jones; the pianist Jason Moran playing at the Studio Museum in Harlem, where he introduced his group as including Beauford Delany, whose paintings hung on the wall near the bandstand—vigorous all and recall across the art forms.

Perhaps above all, the special concentration in jazz studies is designed to prepare students to be well-prepared and flexible improvisers in a universe of change and possibility.

## DEGREE REQUIREMENTS

### For a Special Concentration in Jazz Studies

Students interested in a special concentration in jazz studies should speak with the director no later than the fall semester of the sophomore year.

In addition to the requirements of the special concentration, students must complete a major or a full concentration. Students interested in declaring a special concentration in jazz studies will be assigned an adviser. The program of study is to be planned, with the adviser as early as possible.

A total of seven courses (22 points minimum) are required.

### REQUIREMENTS FOR NON-MUSIC MAJORS/CONCENTRATORS

1. *ENGL W4612*
2. *MUSI V2016*
3. *MUSI V1002*
4. Three interdisciplinary courses as approved by the director
5. A senior independent study project

### REQUIREMENTS FOR MUSIC MAJORS/CONCENTRATORS

1. *ENGL W4612*
2. *MUSI V2016*
3. *MUSI W4505*
4. *MUSI G4500*
5. *MUSI V1618-V1619* (strongly recommended but not required)
6. Private music lessons (strongly recommended but not required)
7. Three interdisciplinary courses as approved by the director
8. A senior independent study project

# Jewish Studies

**Program Director:** Prof. Jeremy Dauber, 319 Hamilton; 854-9608; jad213@columbia.edu  
**Assistant Director:** Sheridan Gayer, 511 Fayerweather; 854-2581; sjg41@columbia.edu  
**Program Office:** Institute for Israel and Jewish Studies, 511 Fayerweather; 854-2581

## Affiliated Faculty

Nehama R. Bersohn  
 Middle Eastern, South Asian, and  
 African Studies

Elisheva Carlebach  
 History

Uri S. Cohen  
 Middle Eastern, South Asian, and  
 African Studies

Yinon Cohen  
 Sociology

Jeremy Dauber  
 Germanic Languages

Miriam Hoffman  
 Germanic Languages

Rebecca Kobrin  
 History

Rina Kreitman  
 Middle Eastern, South Asian, and  
 African Studies

Dan Miron  
 Middle Eastern, South Asian, and  
 African Studies

Sam Moyn  
 History

Jonathan Schorsch  
 Religion

Seth Schwartz  
 History

Michael Stanislawski  
 History

The academic discipline of Jewish studies is an interdisciplinary field centered on the analysis and investigation of Jewish history, religion, language, and literature. The discipline ranges from the study of Jews and Judaism in antiquity to the present day. It explores Judaism not only as a religion, but as a civilization and culture.

A special concentration in Jewish studies is available for undergraduate students at Columbia College and the School of General Studies. The special concentration will allow students to draw upon classes in a wide range of departments across the university, including History; Sociology; Middle Eastern, South Asian, and African Studies; Germanic Languages and Literature; and Religion. The program requirements for the special concentration are designed to provide Columbia students with the interdisciplinary knowledge necessary to study Jewish civilization both broadly and deeply.

The roots of Judaism lie deeper than one region, gender, language, or culture; and by studying the interconnectedness of these areas, the depth of student understanding across a range of spheres and disciplines greatly increases. The special concentration in Jewish studies enhances the current scholarly programs, adding to current Jewish studies courses' vitality as students come to each course with a deeper understanding and background based on their complementary coursework.

The special concentration in Jewish studies is not a stand-alone concentration. In order to graduate, a student must complete a concentration or major in addition to the requirements of the special concentration. Students wishing to complete a special concentration in Jewish studies work with a program adviser to decide upon course selection and sequencing. The program office provides and keeps on record a planning form to track the fulfillment of requirements for the special concentration.

## DEGREE REQUIREMENTS

### For a Special Concentration in Jewish Studies

For a special concentration in Jewish studies, students are required to complete a minimum of 21 points. Within these points, at least one course must be taken from three of the focus areas listed below. Credits for language courses may constitute at most 10 points, and one year of Hebrew or Yiddish language is strongly recommended. A minimum of 18 points must be taken in residence or as part of an approved study abroad program (unless equivalent courses are not offered within the College, as determined by the faculty adviser).

The focus areas and courses listed below are examples based on previously offered courses and do not include all the potential courses which may count for a given focus area. Additionally, as new courses are introduced, new focus areas may develop. Some courses may fall under multiple headings, determination of a course's focus area is at the discretion of the student's faculty adviser.

#### FOCUS AREAS:

1. Bible and Rabbinics/Ancient Judaism
  - *RELI V3512 The Bible and its interpreters*
  - *RELI W4537 Talmudic narrative*
  - *RELI W4520 Patriarchal/Rabbinic authority in antiquity*
  - *RELI V3501 Hebrew Bible*
  - *RELI V3508 Judaism in the time of Jesus*
  - *RELI V3561 Classics of Judaism*
  - *RELI V2510 Jews and Judaism in antiquity*
  - *RELI W4535 Ancient Jewish texts*
  - *RELI V3850 Life after death*
2. Medieval Judaism
  - *HIST W3657 Medieval Jewish cultures*
  - *HIST W3616 Jews/Christians in the medieval world*
  - *RELI W4510 The thought of Maimonides*
  - *RELI V3870 Inquisitions, Christians/empire*
  - *RELI W4515 Jews in the later Roman empire*
  - *HIST W4180 Conversion in historical perspective*
3. Modern Judaism

## Language Resource Center

**Director:** Dr. Stéphane Charitos, 353 IAB; 854-6341; [sc758@columbia.edu](mailto:sc758@columbia.edu)

**Associate Director:** Piero di Porzio, 353 IAB; 854-3326; [pdp@columbia.edu](mailto:pdp@columbia.edu)

**Office:** 353 IAB; 854-9224; <http://www.columbia.edu/cu/lrc>

**Hours of operation:** Monday - Friday, 9 a.m. - 5 p.m.

The Language Resource Center is the home for several less commonly taught languages. The center also organizes noncredit language maintenance conversation groups in a number of languages including Chinese, French, German, Italian, Japanese, Korean, Russian, and Spanish. These conversation groups are primarily designed for professional school students who already have some background in the target language but who wish to maintain or enhance their speaking skills. Additionally, the Language Resource Center serves as the University's language laboratory and provides the Columbia community with a state-of-the-art digital language lab, video viewing facilities, and a multimedia Macintosh computer lab.

# Latin American and Caribbean Studies

**Program Director:** Pablo Piccato, 834 International Affairs Building; pp143@columbia.edu

**Student Affairs Coordinator:** Eliza Kwon-Ahn, 827 International Affairs Building;  
ek2159@columbia.edu

**The Institute of Latin American Studies:** 8th Floor IAB; 854-4643

**URL:** <http://ilas.columbia.edu/>

The undergraduate major in Latin American and Caribbean Studies encompasses people, social and cultural phenomena that transcend physical boundaries. The new major has a focus on multidisciplinary training on politics, history, culture, economy and society—multidisciplinary dialogues that are transnational yet remain anchored in the common historical experience of Latin American societies.

The Institute of Latin American Studies coordinates the major and offers access to research support, study abroad options, and linkages and credits toward the new M.A. program in Latin American and Caribbean Studies.

## DEGREE REQUIREMENTS

### For a Major in Latin American and Caribbean Studies

Up to 12 credits for requirements 4 and 5 can be earned through study abroad. Students are strongly encouraged to explore study abroad options before their junior year. Upon return, they should submit syllabi and all coursework related to each course taken abroad for approval by the director of undergraduate studies.

The major requires a minimum of 31 points as follows:

1. One of two Latin American humanities courses, *SPAN W3490* or *SPAN W3491*, plus another non-language course in the Department of Latin American and Iberian Cultures.
2. Two of the following three history courses:
  - *HIST W3660 Latin American civilization, I*
  - *HIST W3661 Latin American civilization, II*
  - *HIST W3618 The modern Caribbean*
3. *POLS G4461 Latin American politics*
4. A specialization consisting of four courses in a discipline or theme of choice with substantive focus on Latin America. One of these courses must be a seminar. Students whose disciplines of choice are history or Latin American and Iberian cultures must replace one of these courses with a course which focuses on Latin America from another department, for a total of five courses on their specialization plus a course in another field or discipline. The director of undergraduate studies advises students on areas of specialization and must approve courses with substantial Latin American or Caribbean contents not included in the list of eligible courses.
5. One course on Spanish, Portuguese, or an indigenous language at the intermediate or advanced level. If students can demonstrate advance knowledge of one of these languages they can replace this course with a course on other languages at any level.

## DISCIPLINES AND THEMES FOR SPECIALIZATION

A list of courses that can fulfill requirements is updated every year and includes any courses offered by faculty affiliated to ILAS or courses with substantive Latin American content in the Departments of Latin American and Iberian Cultures, History, Political Science, Anthropology, Sociology, Economics, or English and Comparative Literature; or in the centers for the Study of Ethnicity and Race or Comparative Literature and Society; or in the Institutes for Research on Women's and Gender Studies and Latin American Studies.

Students are able to concentrate on one discipline from the departments listed above or a field of study defined in consultation with the director of undergraduate studies. Examples of these fields are gender, race and ethnicity, the environment, migration, crime and security, international relations.

### **For a Concentration in Latin American and Caribbean Studies**

Up to 6 credits for requirements 4 and 5 can be earned through study abroad. Students are strongly encouraged to explore study abroad options before their junior year. Upon return, they should submit syllabi and all coursework related to each course taken abroad for approval by the director of undergraduate studies.

The concentration requires a minimum of 18 points as follows:

1. One of two Latin American humanities courses, *SPAN W3490* or *SPAN W3491*
2. One of the following three history courses:
  - *HIST W3660 Latin American civilization, I*
  - *HIST W3661 Latin American civilization, II*
  - *HIST W3618 The modern Caribbean*
3. *POLS G4461 Latin American politics*
4. A specialization consisting of two courses in a discipline or theme of choice with substantive focus on Latin America. Students whose disciplines of choice are history or Latin American and Iberian cultures must replace one of these courses with a course which focuses on Latin America from another department. The director of undergraduate studies advises students on areas of specialization and must approve courses with substantial Latin American or Caribbean contents not included in the list of eligible courses.
5. One course on Spanish, Portuguese, or an indigenous language at the intermediate or advanced level. If students can demonstrate advance knowledge of one of these languages they can replace this course with a course on other languages at any level.

## Latin American and Iberian Cultures

**Director of Undergraduate Studies:** Jesús Rodríguez-Velasco, 301 Casa Hispánica; 854-8486

**Director of Graduate Studies:** Alberto Medina, 502 Casa Hispánica; 854-7485

**Director of the Language Programs:** Juan Pablo Jiménez-Caicedo, 303 Casa Hispánica; 854-5610

**Departmental Office:** 101 Casa Hispánica; 612 W. 116th Street; 854-4187; 854-5322 (fax)

**URL:** <http://www.columbia.edu/cu/spanish/>

### Professors

Carlos J. Alonso  
Patricia E. Grieve  
Graciela R. Montaldo  
Gustavo Pérez-Firmat  
Jesús Rodríguez-Velasco

### Associate Professors

Alberto Medina

### Assistant Professors

Marc A. Hertzman  
Alessandra Russo  
Dale Shuger

### Senior Lecturer

Guadalupe Ruiz-Fajardo

### Lecturers

Helene J. F. de Aguilar  
Ruth Borgman  
José Antonio Castellanos-Pazos  
Angelina Craig-Flórez  
Raquel Díez-Díaz  
Elena González-Soto  
Ricardo Gualda  
Ana Paula Huback  
Juan Pablo Jiménez-Caicedo  
Reyes Llopis-García  
Diana P. Romero  
Francisco Rosales-Varo  
Perla Rozencvaig  
José Plácido Ruiz-Campillo  
Elsa Ubeda  
Xavier Vila

The Department of Latin American and Iberian Cultures at Columbia University, located in Casa Hispánica at 612 West 116th Street, has long enjoyed an international reputation as a center for Hispanic and Lusophone studies. In addition to providing students with a commanding linguistic preparation in Spanish, Portuguese, and Catalan, the department offers a flexible and varied undergraduate program that enables them to study the cultural manifestations of the Hispanic and Lusophone worlds in all historical periods—from the medieval to the globalized present—and in a variety of cultural contexts: the Iberian Peninsula, Latin America, the former colonies of Portugal, and the United States. The department's courses aim to study culture as the larger contextual grid in which both individuals and social creations find their ultimate meaning and which they, in turn, help to construct.

Students can enter the program at any level of linguistic and cultural preparedness. The department offers a placement exam to determine the level at which a student should either begin or continue study in the department. Majors and concentrators in Hispanic studies and Portuguese studies are typically double majors who bring to our courses insights and methods derived from other disciplines and fields such as history, political science, women's studies, anthropology, economics, Latino studies, Latin American studies, etc., which makes for engaging class discussions.

### Academic Programs

There are two major options in Hispanic studies. The major in Hispanic studies gives students a well-rounded preparation in the history and culture of the Hispanic world. The second option, a major in Hispanic studies with specialization, allows students to study the Hispanic world through the disciplinary prism of one of a number of fields of specialization, among them Latin American studies, gender studies, political science, economics, history, and sociology.

In addition, the department offers a concentration in Hispanic studies and a concentration in Portuguese studies.

The language and major programs in our department have been designed in close consultation and cooperation with Barnard's Department of Spanish and Latin American Cultures. All courses taken in one program may be used to fulfill the requirements of the other. Hence, Columbia and Barnard students may move freely

between the departments of both institutions in search of the courses that may best fit their intellectual interests and schedules.

### Advanced Placement

The department grants 3 credits for a score of 5 on the AP Spanish Language exam, which satisfies the foreign language requirement. Credit is awarded upon successful completion of a 3300-level (or higher) course with a grade of B or higher. This course must be for at least 3 points of credit and be taught in Spanish. Courses taught in English may not be used for language AP credit. The department grants 0 credits for a score of 4 on the AP Spanish Language exam, but the foreign language requirement is satisfied. The department grants 3 credits for a score of 5 on the AP Spanish Literature exam, which satisfies the foreign language requirement. Credit is awarded upon successful completion of a 3300-level (or higher) course with a grade of B or higher. This course must be for at least 3 points of credit and be taught in Spanish. Courses taught in English may not be used for language AP credit. The department grants 0 credits for a score of 4 on the AP Spanish Literature exam, but the foreign language requirement is satisfied.

### Study Abroad

The department recommends strongly that all majors and concentrators in Hispanic or Portuguese studies engage in study abroad, and considers experience abroad as a unique opportunity to provide substance and linguistic depth to its academic programs. Most courses taken abroad can be used to fulfill the requirements for the major and concentration in the department, and with adequate planning, even some of the requirements for a second major or concentration. A maximum of four (4) courses taken abroad may be applied to the major, and a maximum of three (3) to the concentration in Hispanic or Portuguese studies.

All students are strongly advised to take either *SPAN W3349 Hispanic cultures I: from Islamic Spain to the age of empire* or *SPAN W3350 Hispanic cultures II: from the Enlightenment to the present* before studying abroad. Actual or potential majors and concentrators in Hispanic or Portuguese studies should seek tentative approval of their program of study from the director of undergraduate studies before their departure.

### Internships

The department maintains an updated list of internship resources and volunteer opportunities in New York City, the United States, and abroad. Interested students should avail themselves of this resource. No academic credit is given for internship experience.

### The Hispanic Institute

The department also hosts the Hispanic Institute at Columbia University. Founded in 1920 as the Instituto de las Españas, the institute's central aim is to sponsor and disseminate research on Hispanic and Luso-Brazilian culture. The institute has also published uninterruptedly since 1934 the *Revista Hispánica Moderna*, a distinguished journal in the field of Hispanic criticism and theory.

### In Fulfillment of the Language Requirement

For students with no knowledge of Spanish, Portuguese, or Catalan at least four terms of the language are required: *W1101-W1102* (or *W1120*) and *W1201-W1202* (or *W1220*). **All courses must be taken for a letter grade to fulfill the language requirement.**

Students with prior knowledge of Spanish (secondary school, living abroad, near-native or native speakers) who plan to continue studying Spanish are required to take the department's on-line placement examination before registering for a course. Students with prior knowledge of Portuguese or Catalan (secondary school, living abroad, near-native or native speakers) should speak with the director of the language programs.



Students may be exempted from the language requirement in Spanish in one of four ways:

1. By presenting a score of 4 or 5 on the Advanced Placement Spanish Language or Spanish Literature Exams. Students who received a score of 5 in either exam you are awarded 3 advanced placement credits upon successful completion of a 3300-level (or above) course with a grade of B or higher. There is no advanced placement credit granted for a score of 4.
2. By presenting a score of 780 or above on the SAT Subject Test. Students with a score lower than 780 should take the department's online placement examination and follow the placement advice received.
3. By presenting a score of a 7, 6, or 5 on the International Baccalaureate Higher Level Exam in Spanish.
4. By obtaining a score of 625 or higher in the department's on-line placement examination. If the score in the on-line test qualifies a student for exemption from the language requirement, they are required to take a written version of the placement examination during orientation (for entering students) or during the semester (for continuing students). This written exam is offered every year on the Thursday before the beginning of classes in the fall semester from 10:00 a.m.- 2:00 p.m. in Room 352 of the International Affairs Building (the Language Resource Center Computer Lab). Students do not need to make an appointment to sit for this exam.

### **Departmental Honors**

Majors interested in competing for departmental honors should take the senior seminar in the fall of their senior year. Toward the end of the fall semester, the director of undergraduate studies asks seniors to produce a proposal for a senior thesis if they are inclined to undertake the exercise. After reviewing the proposals, the faculty invites a small number of majors to compete for honors based on the strength of their proposal, the quality of the research paper produced by them in the senior seminar, and their overall academic record in the department. In order to be considered for departmental honors, a student must maintain a GPA of at least 3.6 in major courses. An invitation to pursue the honors track is not a guarantee that honors will be awarded. Please keep in mind that normally no more than 10 percent of the majors graduating in a department or program may be awarded departmental honors.

Students who accept the invitation to pursue the honors track enroll in an independent study course in the spring (*SPAN W3998*) and undertake a research project with a faculty member during their last semester at Columbia. Students must identify a faculty member who is willing to supervise their project and who assigns the final grade for the course. The independent study course taken in the spring counts toward the number of courses required to fulfill the major. Students may develop further and expand the paper produced in the senior seminar or a paper produced for another course, or undertake a new project in consultation with the faculty sponsor. Students should consult the department's Web site for more information about the honors program.

### **Undergraduate Prizes**

The faculty awards an undergraduate prize every year:

#### **SUSAN HUNTINGTON VERNON PRIZE**

Established in 1941 by a member of the noted family of New York Hispanophiles, it is given to the Columbia College senior major who has demonstrated excellence in the study of Spanish, Portuguese, and Latin American languages and cultures.

### **DEGREE REQUIREMENTS**

#### **For a Major in Hispanic Studies**

This program requires 11 courses (minimum 33 points) as follows:

1. *SPAN W3300* or *W4900*
2. *SPAN W3330*
3. *SPAN W3349*
4. *SPAN W3350*
5. Six elective courses: a minimum of three electives must be chosen from the department's 3000- or 4000- level offerings. Up to three electives may be taken outside the department, provided they address topics relevant to Hispanic studies. Course work completed in other departments requires the approval of the director of undergraduate studies. Students should seek chronological and geographical breadth in their coursework, enrolling in diverse classes on both Latin American and Iberian topics, something that is essential for those planning future graduate work in Hispanic studies. Such students should consult especially closely with the director of undergraduate studies to plan their program. Majors are also encouraged to study Portuguese and/or Catalan. Two courses in Portuguese or Catalan may be counted for the major in Hispanic studies; but they must be intensive courses: *PORT W1120*, *W1220* and *W1320* and/or *CATL W1120*, and *W1220*. Please refer to the Hispanic Studies Major and Concentration Worksheet.
6. Senior seminar (*SPAN W3991* or *W3992*)

### **For a Major in Hispanic Studies with Specialization**

Students should work closely with the director of undergraduate studies to plan their program of study and should refer to the Hispanic Studies Major and Concentration Worksheet.

This program requires 14 courses (minimum 42 points) as follows:

1. *SPAN W3300* or *W4900*
2. *W3330*
3. *W3349*
4. *W3350*
5. Three elective courses: a minimum of three electives must be chosen from the department's 3000- or 4000- level offerings.
6. Six courses in the area of specialization, three of which should be related to Hispanic studies. Students who wish to complete this interdisciplinary major must choose a specialization in anthropology, art history, economics, film, gender studies, history, Latino studies, Latin American studies, music, political science, sociology or urban studies. A student's transcript reflects the discipline of specialization within Hispanic studies. Courses may include basic methodological or foundation courses in the chosen field or program. In special cases and with the director of undergraduate studies' approval, students may complete some course work in another discipline closely related to the one chosen.
7. Senior seminar (*W3991* or *W3992*). In exceptional cases and again with the director of undergraduate studies' approval, students may take a senior seminar in their field of specialization as a seventh course outside the department if they have completed enough foundational courses in that field to manage the demands of an advanced seminar. In such cases, the director of undergraduate studies must receive a letter or e-mail from the seminar instructor indicating approval of a student's membership in the course; the seminar project must be on a Hispanic topic; and a copy of the project must be turned in to the director of undergraduate studies for the student's file upon completion of the course. Students who compete the senior seminar in another department may also count it as the third elective course on a Hispanic topic outside the department, in which case they may take a fourth 3000- or 4000- level course in the department.

### **For a Concentration in Hispanic Studies**

This program requires eight courses (minimum 24 points) as follows:

1. *SPAN W3300* or *W4900*
2. *W3330*

3. *W3349*
4. *W3350*
5. Four electives, at least three of which must be taken from the department's 3000- or 4000-level offerings. If the fourth elective is taken outside of the department, it must meet with director of undergraduate studies' approval and must be related to Hispanic studies. The senior seminar is not a requirement, but it may be taken as an elective. Majors and honors candidates have priority for enrollment in senior seminars. Please refer to the Hispanic Studies Major and Concentration Worksheet.

### **For a Concentration in Portuguese Studies**

This program requires eight courses (minimum 24 points) as follows:

1. *PORT W3200*
2. *W3101*
3. *W3330*
4. *W3350*
5. Four electives, at least two of which must be have a PORT designation and be taken from the department's 3000-level offerings. Electives taken outside of the department must meet with director of undergraduate studies' approval and must be related to Portuguese studies. A maximum of two courses taught in English may be counted toward the concentration overall. Please refer to the Portuguese Concentration Worksheet.

# Linguistics

**Program Director:** Alan Timberlake, 714 Hamilton Hall; 854-3941; at2205@columbia.edu

## Affiliated Faculty

May Ahmar (Arabic; Middle Eastern, South Asian, and African Studies)  
 Akeel Bilgrami (Philosophy)  
 Joseph Bizup (English and Comparative Literature)  
 Aaron Fox (Music)  
 Haim Gaifman (Philosophy)  
 Boris Gasparov (Slavic)  
 Radmila Gorup (Slavic)  
 Julia Hirschberg (Computer Science)  
 Paul Kockelman (Anthropology, Barnard)  
 Rine Kreitman (Hebrew; Middle Eastern, South Asian, and African Studies)  
 Lening Liu (Chinese; East Asian Languages and Cultures)  
 David Lurie (Japanese; East Asian Languages and Cultures)  
 Kathleen McKeown (Computer Science)  
 John McWhorter (American Studies)  
 Yuan-Yuan Meng (Chinese; East Asian Languages and Cultures)  
 Fumiko Nazikian (Japanese; East Asian Languages and Cultures)

Youssef Nouhi (Arabic; Middle Eastern, South Asian, and African Studies)  
 Christopher Peacocke (Philosophy)  
 Robert Remez (Psychology, Barnard)  
 Owen Rambow (CCLS)  
 Daniel Rothschild (Philosophy)  
 Carol Rounds (Hungarian; Italian)  
 Francisco Rosales-Varo (Spanish)  
 José Plácido Ruiz-Campillo (Spanish)  
 Owen Rambow (Center for Computational Learning Systems)  
 Richard Sacks (English and Comparative Literature)  
 Ann Senghas (Psychology, Barnard)  
 Lasse Suominen (Finnish; German)  
 Marianne Sy (Wolof; Pulaar; Middle Eastern, South Asian, and African Studies)  
 Alan Timberlake (Slavic)  
 Zhirong Wang (Chinese; East Asian Languages and Cultures)  
 David Yerkes (English and Comparative Literature)

Language is central to all human mental activity and communication. Linguistics investigates language in three ways: as self-contained system (sounds, words, grammar, syntax); as constituent of culture and society; and as cognitive and neurological operation of individuals.

Courses in linguistics acquaint students with the theoretical ideas, conceptual apparatus, and research techniques of the scientific study of language. The discipline of linguistics provides an intellectual context for students who enjoy learning languages and who are fascinated by the diversity of language. Linguistics intersects with a range of academic disciplines whose subject matter in one way or another involves language, and for this reason, linguistics is valuable for students whose primary field of study is philosophy, anthropology, music, sociology, political science, psychology, computer science, philology, or a national literature.

The Columbia Linguistics Society is a lively and congenial organization of undergraduates interested in linguistics. The society sponsors lectures and hosts informal social events. Information about the society is available at <http://columbialinguistics.wordpress.com/> or through Facebook.

In the past few years undergraduate linguists have engaged in interesting travel and research including sign language in Nicaragua; language attitudes in Ireland and Kyrgyzstan; colloquial Arabic in Cairo; summer internship at the Max Planck Institute for Evolutionary Biology; study abroad to India, Hungary, and Ireland. Columbia's young linguists have distinguished themselves with awards and plans after Columbia College such as Fulbright Fellowship to France, Georgia, Turkey, graduate study at Northwestern, California (San Diego), New York University, and SUNY Buffalo.

Linguistics at Columbia is an undergraduate program. There is no graduate program in Linguistics at Columbia, however interested students may want to consult Teachers College for programs in applied linguistics.

DEGREE REQUIREMENTS

For the Special Concentration in Linguistics

The special concentration in linguistics is not sufficient for graduation in and of itself. It must be taken in conjunction with a major or a full concentration in another discipline.

Students must take 18 points of courses in the linguistics program as follows:

1. Three core courses in linguistics chosen from:
  - *LING W3101 Introduction to linguistics*
  - *ANTH V3906 Functional linguistics*
  - *LING W4108 Language history*
  - *LING W4120 Language Documentation and Field Methods*
  - *LING W4190 Discourse*
  - *LING W4202 Cognitive linguistics*
  - *LING W4376 Phonetics and phonology*
  - *LING W4800 Language and society*
  - *LING W4903 Syntax*
  - *LING G4206 Advanced grammar and grammars*
  - *AMST W3931 The Lanugages uf America*
2. Two additional courses in linguisitcs or in related fields chosen in consultation with the program director, in fields such as:
  - The history or structure of individual languages (Chinese, Spanish, French, Russian, etc.)
  - Philosophy (*PHIL V3411, PHIL W4481, PHIL G4490*)
  - Anthropology (*ANTH V3044, ANTH W4042, ANTH G6125*)
  - Psychology (*PSYC W2240, PSYC W3265, PSYC BC3164, PSYC BC3369, PSYC W2215*)
  - Computer science (*COMS W3261, COMS W4705, COMS W4706, COMS E6998*)
  - Sociology (*SOCI G4030*)
  - Music (*MUSI W4405, MSPS G4233*)
  - French (*French BC3011*)
3. One language course at the intermediate level (third-semester), separate from the general language requirement.

IN FULFILLMENT OF THE LANGUAGE REQUIREMENT FOR LINGUISTICS

The language taken in fulfillment of the linguistics requirement can be either an ancient or modern language but should neither be the student’s native (or semiinative) language, nor belong to one of the major groups of modern European languages (Germanic, Romance).

In addition to those regularly-taught courses listed under the *Foreign Language Requirement*, the following is a list of languages that have been offered at Columbia in recent years. See further the list of languages offered through the Language Resource Center. Please consult with the program director about other languages to determine if they are acceptable for the linguistics language requirement.

Ancient Egyptian	Irish	Sumerian
Anglo-Saxon	Kannada	Swahili
Aramaic	Nahuatl	Syriac
Cantonese	Nepali	Tajik
Chagatay	Old Church Slavonic	Telugu
Georgian	Quechua	Uzbek
Hausa	Pulaar	Wolof
Indonesian		Zulu

# Mathematics

**Director of Undergraduate Studies:** Prof. Panagiota Daskalopoulos, 526 Math; 854-4756; pdaskalo@math.columbia.edu

**Departmental Adviser:** Prof. Chiu-Chu Liu, 623 Math; 854-2499; ccliu@math.columbia.edu

**Computer Science-Mathematics Adviser:** Prof. Patrick X. Gallagher, 411 Math; 854-4346; pxg@math.columbia.edu

**Mathematics-Statistics Advisers:**

Mathematics: Prof. Julien Dubedat, 601 Mathematics; 854-8806; dubedat@math.columbia.edu

Statistics: Prof. Daniel Rabinowitz, 1244 Amsterdam Ave., Room 1014; 851-2141; dan@stat.columbia.edu

**Calculus Director:** Prof. Peter Woit, 421 Mathematics; 854-2642; woit@math.columbia.edu

**Directors of Instruction:**

Mikhail Smirnov, 425 Mathematics; 854-4303; smirnov@math.columbia.edu

Peter Woit, 421 Mathematics; 854-2642; woit@math.columbia.edu

**Departmental Office:** 410 Mathematics; 854-2432

**URL:** <http://www.math.columbia.edu/>

**Professors**

David A. Bayer (Barnard)  
Panagiota Daskalopoulos  
Aise Johan de Jong  
Robert Friedman  
Patrick X. Gallagher  
Dorian Goldfeld  
Brian Greene  
Richard Hamilton  
Troels Jørgensen  
Ioannis Karatzas(chair)  
Igor Krichever  
Dusa McDuff (Barnard)  
Walter Neumann (Barnard)  
Andrei Okounkov  
D. H. Phong  
Henry Pinkham  
Shou-Wu Zhang

**Associate Professors**

Mikhail Khovanov  
Chiu-Chu Melissa Liu  
Davesh Maulik  
Ovidiu Savin  
Michael Thaddeus  
Eric Urban  
Mu-Tao Wang

**Assistant Professors**

Julien Dubedat  
Robert Lipshitz  
Rachel Ollivier  
Dylan Thurston (Barnard)  
Wei Zhang

**J. F. Ritt Assistant Professors**

Sabin Cautis  
Daniela De Silva (Barnard)  
Bohan Fang

**J. F. Ritt Assistant Professors (continued)**

Maksym Fedorchuk  
Suchin Gautam  
Wei Ho  
Jennifer Hom  
Clement Hongler  
Lan-Hsuan Huang  
Nam Q. Le  
Max Lipyanskiy  
Marc Masdeu  
Ovidiu Munteanu  
Marcel Nutz  
Fabio Nironi  
Valentino Tosatti  
Michael Woodbury  
Weizhe Zheng

**Adjunct Assistant Professors**

Tat sang Fung  
Elliott V. Stein

**NSF Postdoctoral Fellow**

Angelica Cueto  
Peter Horn  
Paul Johnson  
Andrew Obus  
Noah Snyder  
David Shea Vela-Vick  
Catherine Williams

**Eilenberg Visiting Professor**

Edward Frankel (spring)  
Benedict Gross (fall)

**On Leave**

Prof. Zhang for the academic year  
Profs. Le and Phong for the fall semester

The major in mathematics is an introduction to some of the highlights of the development of theoretical mathematics over the past four hundred years from a modern perspective. This study is also applied to many problems, both internal to

mathematics and arising in other disciplines such as physics, cryptography, and finance.

Majors begin by taking either Honors mathematics or the calculus sequence. Students who do not take *Honors mathematics A* and *B* normally take *Linear algebra* in the second year. Following this, majors begin to learn some aspects of the main branches of modern mathematics: algebra; analysis; and geometry, as well as some of their subdivisions and hybrids (e.g., number theory, differential geometry, and complex analysis). As the courses become more advanced, they also become more theoretical and proof-oriented and less computational. Aside from the courses offered by the Mathematics Department, cognate courses in areas such as astronomy, chemistry, physics, probability, logic, economics, and computer science can be used toward the major. A cognate course must be approved by the director of undergraduate studies. In general, a course not taught by the Mathematics Department is a cognate course for the mathematics major if either (a) it has at least two semesters of calculus as a stated prerequisite, or (b) the subject matter in the course is mathematics beyond an elementary level, such as the logic and set theory course *PHIL V3411* in the Philosophy Department or the graph theory and combinatorics course *COMS W3203* in the Computer Science Department.

Another requirement for majors is participation in an undergraduate seminar, usually in the junior or senior year. In these seminars, students gain experience in learning an advanced topic and lecturing on it. In order to be eligible for departmental honors, majors must write a senior thesis.

### Courses for First-Year Students

The systematic study of mathematics begins with one of the following two alternative sequences:

1. *Calculus I, II, III, IV* (*MATH V1101*, *MATH V1102*, *MATH V1201*, *MATH V1202*)
2. *Honors mathematics A, B* (*MATH V1207*, *MATH V1208*)

Credit is allowed for only one calculus sequence.

The first sequence, *Calculus I,II,III,IV*, is a standard course in differential and integral calculus. While *Calculus II* is no longer a prerequisite for *Calculus III*, students are strongly urged to take it before taking *Calculus III*. In particular, students thinking of majoring or concentrating in mathematics or one of the joint majors involving mathematics should take *Calculus II* before taking *Calculus III*. Note that both *Calculus II* and *Calculus III* are prerequisites for *Calculus IV*. *Honors mathematics A-B* is for exceptionally well-qualified students who have strong Advanced Placement scores. It covers multivariable calculus (e.g., *V1201-V1202*) and linear algebra (*MATH V2010*), with an emphasis on theory.

*MATH W1003* does not count toward the degree. Students who take this course do not receive college credit.

### Advanced Placement

The department grants 3 credits for a score of 4 on the AP Calculus AB exam provided the student completes *MATH V1102* with a grade of C or better. The department grants 3 credits for a score of 5 on the AP Calculus AB exam provided the student completes *MATH V1102* or *MATH V1201* with a grade of C or better. The department grants 3 credits for a score of 4 on the AP Calculus BC exam provided the student completes *MATH V1102* or *MATH V1201* with a grade of C or better. The department grants 6 credits for a score of 5 on the AP Calculus BC exam provided the student completes *MATH V1201* or *MATH V1207* with a grade of C or better. Students can receive credit for only one calculus sequence.

### Placement in the Calculus Sequences

#### CALCULUS I

Students who have essentially mastered a precalculus course and those who have a score of 3 or less on an Advanced Placement (AP) exam (either AB or BC) should begin their study of calculus with *Calculus I*.

## CALCULUS II

Students with a score of 4 or 5 on the AB exam or 4 on the BC exam or those with no AP score but with a grade of A in a full year of high school calculus course should begin with *Calculus II*. Those with a score of 4 or 5 on the AB exam or 4 on the BC exam may receive 3 points of AP credit upon completion of this course with a grade of C or higher.

## CALCULUS III

Students with a score of 5 on the BC exam may begin with *Calculus III*. Students with a score of 4 on the BC exam, a 5 on the AB exam, or a grade of A in a full year of high school calculus may begin with *Calculus III*, but are strongly urged to complete the equivalent of *Calculus II* first. Upon completion of *Calculus III* with a grade of C or higher, those students with a score of 5 on the BC exam may receive 6 points of AP credit, and those students with a score of 4 on the BC exam or 5 on the AB exam may receive 3 points of AP credit.

## HONORS MATHEMATICS A

Students who want a proof-oriented theoretical sequence and have a score of 5 on the BC exam may begin with *Honors A*, which is especially designed for mathematics majors. Upon completion of this course with a grade of C or higher, they may receive 6 points of AP credit.

### Transfers inside the Calculus Sequences

Students who wish to transfer from one calculus course to another are allowed to do so beyond the date specified in the Academic Calendar. They are considered to be adjusting their level, not changing their program. However, students must obtain the approval of the new instructor and the class dean prior to reporting to the Office of the Registrar.

### Grading

No course with a grade of D or lower can count toward the major, interdepartmental major, or concentration.

### Departmental Honors

In order to be eligible for departmental honors, majors must write a senior thesis.

## DEGREE REQUIREMENTS

### For a Major in Mathematics

The program of study should be planned with a departmental adviser before the end of the sophomore year. Majors who are planning on graduate studies in mathematics are urged to obtain a reading knowledge of one of the following languages: French, German, or Russian.

Majors are offered the opportunity to write an honors senior thesis under the guidance of a faculty member. Interested students should contact the director of undergraduate studies.

The major requires 42 points as follows:



1. 12 points in calculus or *Honors mathematics A-B*, including Advanced Placement credit
2. 18 points in mathematics courses numbered 2000 and above
  - The courses must include *MATH V2010* (if *Honors mathematics A-B* is not taken), *MATH W4041-W4042*, *MATH W4061-W4062*, and at least one term of *MATH V3951-V3952*.
  - Students who are not contemplating graduate study in mathematics may replace one or both of the two terms of *MATH W4061-W4062* by one or two of the following courses: *MATH V2500*, *MATH V3007*, *MATH V3028*, or *MATH W4032*.
3. 12 points in any combination of mathematics and cognate courses
  - A course not taught by the Mathematics Department is a cognate course for the mathematics major if either (a) it has at least two semesters of calculus as a stated prerequisite, or (b) the subject matter in the course is mathematics beyond an elementary level, such as the logic and set theory course *PHIL V3411* in the Philosophy Department or the graph theory and combinatorics course *COMS W3203* in the Computer Science Department. In exceptional cases, the director of undergraduate studies may approve the substitution of certain more advanced courses for those mentioned above.

### For a Major in Applied Mathematics

The major requires 40 points as follows:

1. 12 points in calculus or *Honors Mathematics A-B*
2. *MATH V2010*
3. *MATH W4061* (or *MATH V2500*, or *MATH W4032*)
4. *APMA E4901* (junior year)
5. *APMA E4903* (senior year)
6. 18 points in electives from the following courses (other courses may be used with the approval of the Applied Mathematics Committee):
  - *MATH V2500*
  - *MATH V3007* (or *MATH W4065*, or *APMA E4204*)
  - *MATH V3027*
  - *MATH V3028* (or *APMA E4200*, or *APMA E6301*)
  - *MATH W4032*
  - *SIEO W3658*
  - *APMA E4300*
  - *APMA E4101*
  - *APMA E4150*
  - *APMA E4400*

### For a Major in Computer Science-Mathematics

The goal of this interdepartmental major is to provide substantial background in each of these two disciplines, focusing on some of the parts of each which are closest to the other. Students intending to pursue a Ph.D. program in either discipline are urged to take additional courses, in consultation with their advisers.

Requires a total of at least 46 points: 20 points in computer science, 21 points in mathematics, and two 3 point electives in either computer science or mathematics.

1. Computer Science:
  - *COMS W1007*
  - *COMS W3137*
  - *COMS W3157*
  - *COMS W3203*
  - *COMS W3261*
  - *CSEE W3827*
2. Mathematics:
  - One of the following sequences:  
—*MATH V1101*, *MATH V1102*, *MATH V1201*, *MATH V1202*  
—*MATH V1207*, *MATH V1208*
  - Each of the following:

- MATH V2010* (unless *MATH V1207* and *MATH V1208* are taken)
  - MATH W4041*
  - MATH V3951* or *MATH V3952*
3. Electives:
- Two of the following:
    - CSOR W4231*
    - COMS W4241*
    - MATH V3020*
    - MATH BC2006*
    - MATH W4061*
    - MATH V2500*
    - MATH V3007*
    - MATH V3386*
    - MATH W4051*

### For a Major in Economics-Mathematics

For a description of the joint major in economics-mathematics, see Economics.

### For a Major in Mathematics-Statistics

The program is designed to prepare the student for: (1) a career in industries such as finance and insurance, that require a high level of mathematical sophistication and a substantial knowledge of probability and statistics and (2) graduate study in quantitative disciplines. Students choose electives in finance, actuarial science, operations research or other quantitative fields to complement requirements in mathematics, statistics, and computer science.

1. Mathematics:
  - One of the following sequences:
    - MATH V1101-V1102*, *MATH V1201*, *MATH V2010*, and *MATH V2500*
    - MATH V1207-V1208* and *MATH V2500* (with approval from the adviser)
2. Statistics:
  - One of *STAT W1211*, *STAT W1001*, or *STAT W1111*; and
  - Each of *STAT W3105*, *STAT W3107*, and *STAT W3315*; and
  - One of *STAT W4606*, *STAT W4840*, *STAT W4635*, *STAT G6501* or *STAT G6505*
3. Computer Science:
  - One of *COMS W1003*, *COMS W1004*, *COMS W1005*, or *COMS W1007*, or an advanced computer science offering in programming.
4. Electives:
  - An approved selection of three advanced courses in mathematics, statistics, applied mathematics, industrial engineering and operations research, computer science, or approved mathematical methods courses in a quantitative discipline. At least one elective must be a Mathematics Department course numbered 3000 or above.

Students interested in modeling applications are recommended to take *MATH V3027* and *MATH V3028*; those interested in finance are recommended to take *MATH W4071*, *STAT W4290*, and *STAT W4437*; those interested in graduate study in mathematics or in statistics are recommended to take *MATH W4061* and *MATH W4062*. Students interested in actuarial sciences should discuss with the Statistics Department adviser how to include courses approved for the Actuarial Societies' Validation by Education Experience requirements, and how to prepare for the societies' exams. Students must obtain approval for their elective selection from both the mathematics and statistics advisers.

Students may replace *STAT W3105* with *W4105*, *STAT W3107* with *W4107*, and *STAT W3315* with *W4315* or *W4440*, and students may replace *STAT W3105* and *W3107* with the combined course *STAT W4109*.

**For a Concentration in Mathematics**

Requires completion of the multivariable calculus and linear algebra sequence (either *MATH 1202* and *MATH V2010* or *MATH 1208*, or the equivalent), and at least 12 additional points from any of the courses offered by the department numbered *2000* or higher. For mathematics courses taken in other departments, consult the director of undergraduate studies.

# Medieval and Renaissance Studies

**Program Director:** Prof. David Yerkes, 615 Philosophy, 854-5280

**Program Office:** 602 Philosophy, 854-2465

**Interdepartmental Committee for Medieval and Renaissance Studies**

David Rosand

Art History and Archaeology

826 Schermerhorn

(212) 854-4502

David Yerkes (chair)

English and Comparative Literature

615 Philosophy

(212) 854-5280

Robert Somerville

Religion

615 Kent

(212) 854-5077

Medieval and Renaissance Studies is an interdisciplinary program in which a student combines a concentration in medieval or Renaissance civilization with a major or concentration in one of the following departments: Art History and Archaeology, Classics, English and Comparative Literature, French and Romance Philology, Germanic Languages, History, Italian, Music, Philosophy, Religion, or Latin American and Iberian Cultures.

## DEGREE REQUIREMENTS

### For a Special Concentration in Medieval and Renaissance Studies

In addition to fulfilling the requirements for a departmental major or concentration, a student should plan on an additional 12 points of courses in other departments of the program, to be chosen in consultation with an appropriate member of the committee. A reading knowledge of two languages is also required: normally they are Latin (as demonstrated by the completion of *LATN W1201* or *W1202*) and the completion of the fourth term of one Romance or Germanic language. Language courses do not count toward the 12 points required for the concentration.

# Middle Eastern, South Asian, and African Studies

## Director of Undergraduate Studies:

Hamid Dabashi, 416 Knox Hall; 854-7524; [hd14@columbia.edu](mailto:hd14@columbia.edu)

## Language Coordinators:

African languages: Mariame Sy, [sms2168@columbia.edu](mailto:sms2168@columbia.edu), 408 Knox Hall; 851-2439

Arabic: Taoufik Ben Amor, [tb46@columbia.edu](mailto:tb46@columbia.edu), 302 Knox Hall; 854-2895

Armenian: Nanor Kenderian, [nk2334@columbia.edu](mailto:nk2334@columbia.edu), 407 Knox Hall; 851-4002

Hebrew: Rina Kreitman, [rk2617@columbia.edu](mailto:rk2617@columbia.edu), 411 Knox Hall; 854-6519

Hindi/Urdu: Rakesh Ranjan, [rr2574@columbia.edu](mailto:rr2574@columbia.edu), 409 Knox Hall; 851-4107

Persian: Ghazzal Dabiri, [gd2287@columbia.edu](mailto:gd2287@columbia.edu), 412 Knox Hall; 854-6664

Sanskrit: Somdev Vasudeva, [sv2246@columbia.edu](mailto:sv2246@columbia.edu), 307 Knox Hall; 854-1304

Tamil: D. Samuel Sudanandha, [dss2121@columbia.edu](mailto:dss2121@columbia.edu), 305 Knox Hall; 854-4702

Turkish: Zuleyha Colak, [zc2208@columbia.edu](mailto:zc2208@columbia.edu), 412 Knox Hall; 854-0473

Departmental Office: 401 Knox Hall; 854-2556

**URL:** <http://www.columbia.edu/cu/mesaas/>

## Professors

Muhsin J. Ali Al-Musawi

Partha Chatterjee

Hamid Dabashi

Mamadou Diouf

Wael Hallaq

Sudipta Kaviraj

Rashid Khalidi

Mahmood Mamdani

Brinkley Messick

Dan Miron

Timothy Mitchell

Sheldon Pollock

Frances Pritchett

George Saliba

## Associate Professors

Gil Anidjar

Joseph Massad

## Assistant Professors

Allison Busch

Uri Cohen

Nanor Kenderian

Noha Radwan

## Nikit and Eleanor Ordjanian Visiting

### Professor in Armenian Studies

Arman Grigoryan

## Senior Lecturers

Taoufik Ben Amor

Rakesh Ranjan

## Lecturers

Ouijdane Absi

Aftab Ahmad

May Ahmar

Ghada Badawi

Tarik Belhoussein

Nehama Bersohn

Rym Bettaieb

Jane Clayton

Zuleyha Colak

Ghazzal Dabiri

Reem Faraj

Charry Karamanoukian

Rina Kreitman

Youssef Nouhi

Dalpat Rajpurohit

D. Samuel Sudanandha

Mariame Sy

John Zuzo

## Visiting Faculty

Tsipi Rubin

Som Dev Vasudeva

## On Leave

Profs. Mitchell and Radwan for the academic year

Profs. Massad and Pritchett for the fall semester

Profs. Busch and Miron for the spring semester.

The undergraduate program in Middle Eastern and Asian studies, which is now expanding to include African studies, offers students the opportunity to study in depth the cultures, ideas, histories, and politics of several overlapping world regions. The program emphasizes the close reading of intellectual traditions, creative movements, and political debates, drawing on a wide variety of historical and contemporary sources in literature, religion, intellectual life, the visual and performing arts, and new media. Courses also examine the historical and cultural contexts in which these traditions and debates have been produced.

Majors develop two closely related skills. The first is linguistic expertise. A minimum of two years of course work in one language is required, and further work (including intensive summer language study) is greatly encouraged, with the aim of learning how to study a cultural field through its own texts. The Department of

Middle Eastern, South Asian, and African Studies (MESAAS) offers courses in Arabic and several other Middle Eastern languages, in Hindi/Urdu and a number of other South Asian languages, and in at least three African languages. The second skill is learning how to think and write about complex cultural formations, drawing on a variety of methods and disciplinary approaches. The approaches vary according to the faculty members' expertise, incorporating methods from various fields in the humanities and social sciences, such as political theory, literary criticism, film studies, cultural studies, and history.

### **Academic Program**

Majors and concentrators begin their work with an introductory course that emphasizes a particular area (the Middle East, South Asia, or Africa). They then take *AHUM V3399 Major texts: Middle East and South Asia*, a small-group seminar course in which they explore some of the classic texts of these world regions. Five additional courses are chosen in consultation with the director of undergraduate studies. These may include six points of course work from other departments, subject to the approval of the director of undergraduate studies. Although students typically choose a particular focus (for example, Arab political thought, Urdu literature, Armenian history, Iranian cinema, or contemporary West Africa), students are encouraged to gain exposure to the fullest range of topics and approaches offered by the faculty of the department.

With this background, students are ready to take, preferably in their senior year, *MDES W3000 Theories of culture*. This examination of various critical approaches to the study of language, culture, and politics enables students to reflect on their own work from a number of different perspectives. Students may also wish to write a thesis. While not required for graduation, the thesis enables a student to be considered for departmental honors.

### **In Fulfillment of the Language Requirement**

In commencing the two-year language requirement, students should be aware that those with previous language training who wish to start a language program at a level above the introductory level must in most cases take a placement test before registration. Those seeking to waive a language requirement must take a proficiency test.

For information about the time and location of the placement tests, consult the Languages section of the departmental Web site at <http://www.columbia.edu/cu/mesaas/languages/>. The Web site includes separate pages for each language, describing the program of instruction, courses for heritage speakers, summer language programs, and more. Note that language courses must be taken for a letter grade. Pass/D/Fail or Registration credit (R) is not permitted. Further information is also available from the coordinators of each language program.

### **Advising**

Newly declared majors and concentrators should meet with the director of undergraduate studies in order to plan a program of study. The goal is to strike a balance between courses that will help a student achieve depth in a particular area/discipline and those that foster a wider perspective. Although students are encouraged to approach faculty in the department based on their specific interests, the director of undergraduate studies functions as an ad hoc adviser for all entering students, addressing issues of course requirements, credit and approval for courses in other departments or other schools, study abroad, and, eventually, honors requirements (including the senior thesis). Please do not hesitate to contact the director of undergraduate studies by e-mail or phone, or during office hours.

### **Grading**

Courses in which the grade of D has been received do not count toward the major or concentration requirements, nor do those taken Pass/D/Fail except for the first course taken toward the major or concentration.

### **Honors Program/Senior Thesis**

For complete guidelines see Departmental Honors as outlined in *Programs of Study* in this bulletin. To be considered for the departmental honors program, a senior thesis with a topic and format approved by the director of undergraduate studies is required. Students must submit a thesis proposal to the director of undergraduate studies by November 15 of their senior year; the thesis itself is due on April 1. A senior thesis is not a requirement for the major. For more information, please see Frequently Asked Questions on the department's website.

### **DEGREE REQUIREMENTS**

#### **For a Major in Middle Eastern, South Asian, and African Studies**

Students should obtain a Major Declaration form from their advising dean and bring it to the director of undergraduate studies for approval. The director of undergraduate studies meets with students as necessary in order to establish and approve their individual programs of study. The requirements for the major are as follows:

1. A one-term introductory culture course, to be approved by the director of undergraduate studies
2. *AHUM V3399*
3. *MDES W3000*
4. Two years of a language regularly taught in the department, or substitutional courses for students who test out of this requirement with the approval of the director of undergraduate studies
5. 15 points of course work, which may include up to six points from other departments, selected in consultation with the director of undergraduate studies

#### **For a Concentration in Middle Eastern, South Asian, and African Studies**

The requirements are identical with those for the major, except that there is no departmental language requirement. Fifteen points in MESAAS courses, selected with the approval of the director of undergraduate studies. These may not include elementary or intermediate language courses. Not more than two courses out of the general 15 points may be devoted to language study.

# Music

**Director of Undergraduate Studies:** Brad Garton, 807 Dodge; 854-2261;  
garton@columbia.edu

**Music Humanities Chair:** Elaine Sisman, 604 Dodge; 854-7728; es53@columbia.edu

**Music Performance Program Director:** Deborah Bradley-Kramer, 618 Dodge; 854-1257;  
db511@columbia.edu

**Departmental Office:** 621 Dodge; 854-3825

**URL:** <http://www.music.columbia.edu/>

## Professors

Joseph Dubiel  
Walter Frisch  
Brad Garton  
Ellie Hisama  
Fred Lerdahl  
George Lewis  
Ana Maria Ochoa  
Elaine Sisman  
John F. Szwed

## Associate Professors

Susan Boynton  
Aaron Fox  
Giuseppe Gerbino  
Christopher Washburne

## Assistant Professors

Ellen Gray  
Karen Henson  
Fabien Lévy

## Coordinator of Musicianship

Peter Susser

## Lecturers

Tyler Bickford  
Deborah Bradley-Kramer  
Davide Cerani  
Jeffrey Milarsky  
Rachel Mundy  
Jamie Oliver La Rosa  
Arman Schwartz  
Gavin Steingo

## Associates in Music Performance

Sarah Adams  
Gail Archer (Barnard)  
Eliot Bailen  
Allen Blustine  
Vicki Bodner  
Paul Bollenback  
Yari Bond  
Patrick Calleo  
Marco Cappelli  
Kenneth Cooper  
Christine Correa  
David Fulmer

## Associates

Paul Cohen  
Gareth Flowers  
John Gibson  
Marc Goldberg  
June Han  
Robert Ingliss  
Brad Jones  
Sue Ann Kahn  
Arthur Kampela  
Kyu-Young Kim  
Min-Young Kim  
Victor Lin  
Ole Mathisen  
Jeremy McCoy  
Tony Moreno  
Rosamond Morley  
Ah-Ling Neu  
Ugamo Okegwo  
Niels J. Østbye  
Muneko Otani  
Susan Palma-Nidel  
Richard Rood  
Susan Rotholz  
Louise Sasaki  
Michael Seltzer  
Don Sickler  
Raymond Stewart  
Michael Skelly  
Jessica Thompson  
Leo Traversa  
Reiko Uchida  
Benjamin Waltzer  
Jeffrey Warschauer  
James Wilson

The Columbia major in music provides the aspiring musician or scholar with a wide range of ways of thinking about music (performance-related, theoretical, historical, cultural, and compositional) while enabling students to concentrate on the aspects of music that interest them the most—from popular and world musics to computer music.



One of the fascinations of the discipline of music is that there is hardly any field of inquiry that it cannot connect with. In the Medieval period, for example, music was grouped with arithmetic, geometry, and astronomy as part of the Quadrivium, not as one of the arts. Our faculty engage in cultural studies (ethnomusicology), connect with faculty in other departments (i.e., English, Philosophy, and Psychology), engage with current literary theory, and are on the cutting edge of technological change. Students who have a passion for music in any of the following areas—performance, music history, composition, or ethnography—and have already developed basic skills in one or more of them should consider a major in music.

### Advanced Placement

The department grants 3 credits for a score of 5 on the AP Music Theory exam along with exemption from *MUSI V1002*. Exemption from *MUSI V2318-V2319* is determined by departmental exam. The department grants 3 credits for a score of 4 on the AP Music Theory exam but the student is not entitled to any exemptions.

### Music Performance

For information on auditions, registration, and other aspects of performance not included below, contact Deborah Bradley-Kramer, director of the Music Performance Program, in 618 Dodge, 854-1257. The Web site is <http://www.music.columbia.edu/mpp>.

Students with questions about the Columbia-Juilliard programs should consult the Special Programs section of this bulletin or contact David Buckwald, 854-1975.

### LESSONS

Individual lessons on instruments listed under Courses of Instruction may be taken for one half hour per week for 1 point of credit or one full hour for 2 points.

### ENSEMBLES

Participation in the following ensembles is open to all members of the University community.

Students who wish to receive course credit may register for these courses as listed.

#### *Columbia University Orchestra*

Jeffrey Milarsky, *Conductor*

See *MUSI V1591-V1592* and *V1598-V1599* for audition information and description of activities.

#### *Chamber Music Ensemble*

Deborah Bradley, *Director*

See *MUSI V1598-V1599* for audition information and description of activities.

#### *Barnard-Columbia Chorus and Chamber Singers*

Gail Archer, *Director*

See *MUSI V1593-V1594* and *V1595-V1596* for audition information and description of activities.

#### *Collegium Musicum*

Michael Shaw, *Director*

See *MUSI V1580-V1581* for audition information and description of activities.

#### *Jazz Ensembles*

Christopher Washburne, *Director*

See *MUSI V1618-V1619* for audition information and description of activities.

#### *World Music Ensembles*

Ana Maria Ochoa, *Director*

See the Music Performance Web site for audition information and description of activities.

## Practice Rooms

Piano practice rooms in Broadway and East Campus dormitories may be reserved, at a nominal fee, upon application to the Music Department in 621 Dodge. Applications should be made during the second week of classes. Schapiro Hall has seven “walk-in” practice rooms that are assigned on a firstcome, first-served basis. The organ studio in St. Paul’s Chapel is available for organ practice. Arrangements should be made with the associate in organ performance during the first week of classes.

## Grading

Courses in which a grade of D or lower has been received do not count toward the major or concentration requirements.

## Departmental Honors

For departmental honors, see the director of undergraduate studies during the first week of the first semester of the senior year. A formal written proposal is required.

## DEGREE REQUIREMENTS

### For a Major in Music

The program of study should be planned with the director of undergraduate studies in the first semester of the sophomore year. Students planning to focus on a particular area of study (e.g., computer music, composition, music theory, music history, or ethnomusicology) may wish to select a faculty adviser in that area.

Prospective music majors are advised to satisfy the following prerequisites as early as possible: *MUSI V1002* and *MUSI V1312*. These requirements may be fulfilled either through successful completion of the courses or through satisfactory performance on exemption examinations administered at the beginning of each semester by the department. A student may also place out of *MUSI V1002* with a score of 5 on the Advanced Placement Examination in music.

All music majors are required to take a keyboard proficiency exam upon entrance into the first semester of theory. If they do not pass the exam, they are required to take *MUSI W1517-W1518* for 1 point each term.

For students who plan to do graduate work in music, the study of German, French, Italian, and/or Latin is highly recommended.

The major requires a minimum of 40 points including:

1. *MUSI V2318-V2319*
2. *MUSI V3321-V3322*
3. Four terms of ear training to be chosen from *MUSI V2314-V2315*, *MUSI V3316-V3317*, and *MUSI W4318-W4319* (if offered)
4. *MUSI V3128* and *MUSI V3129*
5. At least three 3000- or 4000-level electives

The remaining points are to be earned through 2000-, 3000-, or 4000-level courses subject to these constraints:

1. No more than 6 points of 2000-level courses
2. No more than 4 points of instrumental or vocal lessons or participation for a letter grade in *MUSI V1591-V1592*, *MUSI V1598-V1599*, *MUSI V1618-V1619* or *MUSI V1624-V1625*
3. *MUSI W1517-W1518*, when they are necessary, will count against the 4-point maximum in performance before any other lessons

### For a Concentration in Music

The program of study should be planned with the director of undergraduate studies in the first semester of the sophomore year. All concentrators must consult the director of undergraduate studies each term before registering.

Prospective music concentrators are advised to satisfy the following prerequisites as early as possible: *MUSI V1002* and *MUSI V1312*. These requirements may be fulfilled either through successful completion of the courses or satisfactory

performance on exemption examinations administered at the beginning of each semester by the department. A student may also place out of *MUSI V1002* with a score of 5 on the Advanced Placement Examination in music.

The concentration requires a minimum of 28 points including:

1. *MUSI V2318-V2319*
2. *MUSI V3321-V3322*
3. Four terms of ear training to be chosen from *MUSI V2314-V2315*, *MUSI V3316-V3317*, and *MUSI W4318-W4319* (if offered)
4. *MUSI V3128-V3129*
5. At least one course must be at the 3000 or 4000 level
6. No more than 4 points of instrumental or vocal lessons or participation for a letter grade in *MUSI V1591-V1592*, *MUSI V1598-V1599*, *MUSI V1618-V1619* or *MUSI V1624-V1625*
7. *MUSI W1517-W1518*, when they are necessary, will count against the 4-point maximum in performance before any other lessons

### **For a Special Concentration in Jazz Studies**

Students interested in a special concentration in jazz studies should see the listing for Jazz Studies.

# Philosophy

**Director of Undergraduate Studies:** David Albert, 706 Philosophy; 854-3519; da5@columbia.edu

**Economics-Philosophy Adviser:** John Collins, 714 Philosophy Hall; 854-3970; jdc9@columbia.edu

**Departmental Office:** 708 Philosophy; 854-3196

**URL:** <http://www.columbia.edu/cu/philosophy/>

## Professors

David Albert  
Akeel Bilgrami  
Taylor Carman (Barnard)  
Alan Gabbey (Barnard)  
Haim Gaifman  
Lydia Goehr  
Axel Honneth  
Patricia Kitcher  
Philip Kitcher  
Wolfgang Mann  
Christia Mercer  
Michele Moody-Adams  
Fred Neuhauser (Barnard)  
Christopher Peacocke  
Carol Rovane  
David Sidersky  
Achille Varzi (chair)  
Katja Vogt

## Associate Professors

John Collins  
Jeffrey Helzner

## Assistant Professors

Stephanie Beardman (Barnard)  
Macalester Bell  
Elliot Paul (Barnard)  
John Morrison (Barnard)

## Affiliated Faculty

Souleymane Bachir Diagne (French and Romance Philology)  
Jon Elster (Political Science)  
Kent Greenawalt (University Professor)  
Wayne Proudfoot (Religion)  
Joseph Raz (Law School)  
Gayatri Spivak (University Professor)

## Visiting Faculty

Vincent Hendricks

Students interested in philosophy may pursue a major either in philosophy or in economics-philosophy. Because philosophy treats issues fundamental to both the sciences and the humanities, students are also welcome to combine their philosophy major with work in other fields. Before declaring a major, either in philosophy or in economics-philosophy, and before deciding to combine philosophy with another discipline, students should meet with the director of undergraduate studies to formulate the program that will be best for them. Philosophy majors are given a foundation in logic and philosophical methodology, and are asked to confront fundamental questions in the main areas of philosophy: epistemology and metaphysics, ethics and political philosophy, the philosophy of mind and language, and the history of philosophy. The department requires that all majors take at least one seminar (*PHIL C3912*), which is designed to allow students to focus on particular philosophical issues or texts in greater depth. Outstanding seniors may also pursue their own philosophical project in a senior thesis. Over and above the courses required of all majors, there is room for considerable flexibility. Through an appropriate choice of electives from among the department's course offerings (and from related courses in other departments), there are special opportunities for focusing more intensively on one or two subfields of philosophy: for example, logic and the philosophy of mathematics, philosophy of science, ethics and political philosophy, or the history of philosophy. Students should consult with the director of undergraduate studies on how best to pursue such programs.

## Study Abroad: Reid Hall, Paris

For additional information about the Columbia University in Paris Program at Reid Hall, including summer session, courses consult the *Columbia University in Paris Bulletin* (available in 606 Kent Hall), call (212) 854-2559, or send an e-mail to: reidhall@columbia.edu. It is also available on-line at the Office of Global Programs website. For information about the applicability of Reid Hall courses to the major or concentration, consult the director of undergraduate studies.

## Grading

Courses in which a grade of D has been received do not count toward the major or concentration requirements.

## Courses

For courses in history and philosophy of science, please see separate heading in this bulletin.

## Departmental Honors

In order to qualify for honors in philosophy, a student must have a grade point average of at least 3.6 in the major and complete an honors thesis (typically of no more than 40 pages in length). Seniors are required to discuss their plans for a thesis with the director of undergraduate studies early in the fall semester and to submit a written petition by December 1. The completed thesis must be submitted by April 1. Students are expected to write the thesis under the close supervision of a member of the department, registering for *PHIL C3996-C3997* supervised senior research. Normally, no more than 10 percent of the graduating majors in the department each year receive departmental honors.

## DEGREE REQUIREMENTS

### For a Major in Philosophy

Students considering a major in philosophy are strongly encouraged to meet with the director of undergraduate studies early in their sophomore year. All majors must consult the director of undergraduate studies each term before registering for classes in order to plan and update their individual programs of study.

Students planning to major in philosophy are advised to begin with *PHIL C1010*. Beginning students are especially encouraged to take 2000-level courses, both in the history of philosophy and in systematic philosophy. These courses are typically less specialized and less narrowly focused than higher-numbered ones. More advanced students are encouraged to take 3000-level courses. The department requires that all majors take at least one seminar, *PHIL C3912*.

No more than one course at the 1000-level can be counted toward the major. In order to enroll in one of the 4000-level courses, students must have taken at least four courses in Philosophy.

Students may choose courses prefixed with *G* only with the instructor's permission. Additionally, because these courses are capped, students should register early.

The major requires a minimum of 30 points in philosophy chosen from courses prefixed with *C*, *G*, *V*, or *W*, including:

1. *PHIL V2101* or another course in the history of ancient or medieval philosophy (e.g., *PHIL W3131*)
2. *PHIL V2201* or another course in the history of late medieval or early modern philosophy (e.g., *PHIL V3237* or *PHIL V3264*)
3. *PHIL V3411* or, in exceptional cases, a more advanced course in logic
4. At least one course in either metaphysics or epistemology (e.g., *PHIL G4501*, *PHIL V3960*, or a related course to be chosen in consultation with the director of undergraduate studies)
5. At least one course in either ethics or social and political philosophy (e.g., *PHIL V2702*, *PHIL V3701*, *PHIL 3751*, or a related course to be chosen in consultation with the director of undergraduate studies)
6. *PHIL C3912*.

### For a Concentration in Philosophy

Philosophy, as an academic discipline, has significant points of contact with a wide range of other subjects—in the humanities, the social sciences, and the natural sciences. A concentration in philosophy thus can be an attractive option for many students. Those considering becoming concentrators are strongly encouraged to meet

with the director of undergraduate studies early in their sophomore year, in order to discuss their specific interests and to plan their programs of study. All concentrators should consult with the director of undergraduate studies each term before registering for courses.

The concentration requires a minimum of 24 points in philosophy, chosen from courses prefixed with *C*, *G*, *V*, or *W*. There are no specific courses required for the concentration.

Students may choose courses prefixed with *G* only with the instructor's permission. Additionally, because these courses are capped, students should register early. *PHIL C3912* is open to junior and senior concentrators who have taken at least four courses in philosophy.

### For a Major in Economics-Philosophy

Please read *Regulations for Economics Majors, Concentrators, and Interdepartmental Majors* in the Economics section of this bulletin.

Economics-philosophy is an interdisciplinary major that, while introducing students to the basic methodologies of economics and philosophy, stresses areas of particular concern to both. These include subjects such as rationality and decision making, justice and efficiency, freedom and collective choice, the logic of empirical theories and their testing. Many of the issues are dealt with historically, and classic texts of Plato, Kant, Mill, Marx, and Smith are reviewed.

Two advisers are assigned for the interdepartmental major, one in the Department of Economics and one in the Department of Philosophy. Please note that the economics adviser can only advise on the economics requirements and the philosophy adviser can only advise on the philosophy requirements.

The economics-philosophy major requires a total of 44 points: 16 points in economics, 15 points in philosophy, 6 points in mathematics, 3 points in statistics, and 4 points in the interdisciplinary seminar as follows:

1. Economics core courses (10 points)
  - *ECON W1105 Principles of economics*
  - *ECON W3211 Intermediate microeconomics*
  - *ECON W3213 Intermediate macroeconomics*
2. Mathematics sequence (6 points)
3. Statistics (3 points)
4. Economics electives (6 points)
5. Philosophy courses (15 points)
  - *PHIL C1010 Methods and problems of philosophical thought*
  - *PHIL V3411 Symbolic logic*
  - *PHIL V3701 Moral philosophy* (or another adviser-approved course in moral or political philosophy)
  - *PHIL W3551* (or another adviser-approved course in epistemology or philosophy of science)
  - One of the following:
    - PHIL G4561 Probability and induction*
    - PHIL G4565 Rational choice*
6. Seminar (4 points)
  - *ECPH W4950 Economics and philosophy seminar* (or another adviser-approved seminar in philosophy or economics)

# Physical Education and Intercollegiate Athletics

## Director of Undergraduate Studies:

Prof. Kenneth Torrey, 332 Dodge Physical Fitness Center; 854-3439; kwt1@columbia.edu

## Departmental Office:

336 Dodge Physical Fitness Center; 854-3439

**URL:** <http://www.GoColumbiaLions.com>

## Associate Professors

Kenneth Torrey

## Associates

Scott Alwin  
Kevin Anderson  
James Bolster  
Brett Boretti  
Will Boyland-Pett  
Brendan Buckley  
Diana Caskey  
Adrienne Clark  
Jon Clemens  
Shanna Cook  
Derek Davis  
Patrick Desir  
Andrea Di Trani  
Malcolm Doldron  
Jonathan Douglas  
Erich Ely  
Allison Evans  
Steven Figueroa  
Roman Fleszar  
Marybeth Freeman  
Carl Fronhofer  
Edward Golding  
Bid Goswami  
Courtney Gzesikowski  
Jumpie Harada  
Matt Herhal  
Neila Jacobson  
Brian Jines  
Katie Jones

## Associates (cont'd)

Brie Katz  
Aladar Kogler  
George Kolombatovich  
Kacy Krisman  
Gustavo Leal  
Elias Levanway  
Kate Lyn  
Peter Maki  
Kevin McCarthy  
Thomas McMenemy  
Gaurav Misra  
Mueller Richard  
Kayla Noonan  
Gavin O'Neal  
Melanie Onufrieff  
Anthony Piergaro  
Scott Ramsey  
Zach Richard  
Sara Schiffman  
Thomas Sheehan  
Chis Smolk  
Gordon Spencer  
Kelly Stott  
Jacques Swanepoel  
Sara Van Saanen  
Catherine Wade  
Ilene Weintraub  
Ajaya William  
Kari Williams  
Jonathan Wilson  
Willy Wood  
Michael Zimmer

*PHED C1001-C1002* is a College requirement that students are advised to complete by the end of the first year. Students may elect to take one or two additional terms of *PHED C1001* and/or *PHED C1002* for credit. Students receive 1 point of academic credit for each completed term of physical education for a possible total of 4 points.

Students who request to have their physical education activities limited or waived because of a medical condition should contact Professor Ken Torrey, chair of Physical Education. In some situations students may require an evaluation by a clinician at Health Services at Columbia in order to receive a waiver. In consultation with Professor Torrey, students may be instructed to contact Dr. Samuel Seward, medical director of Health Services at Columbia, who facilitates these evaluations. All students are required to pass a swimming test or take beginning swimming for one semester to fulfill the swimming requirement. The swimming tests are administered in the Uris Pool the first day of classes and are also offered on Wednesdays from 8:30p.m.-9:30p.m., Fridays from Noon-2 p.m. and Sundays from 3p.m.-4p.m. throughout the semester. A schedule of additional times to take the test is posted on the department Web site. Those who do not pass are encouraged to take a beginner swimming course at the first opportunity. The test consists of swimming three laps of the pool (75 yards) without resting, using any stroke or combination of strokes.

The grading in all physical education courses is Pass/Fail. Students who fulfill the attendance and participation requirement receive a Pass. Those who miss more than

the permissible number of classes and who do not drop the course by the official drop deadline receive an unofficial withdrawal (UW). Those who anticipate attendance problems should contact their instructors or the director of undergraduate studies.

The program offers a variety of activities in the areas of aquatics, fitness, martial arts, individual and dual “lifetime” sports, team sports, and outdoor education. Most of the activities are designed for the beginner or intermediate level. However, advanced courses are offered at selected times. The courses are designed to develop and/or improve the student’s fundamental skills and to help realize his or her potential. Activity that promotes one’s fitness level is greatly emphasized. A major goal is to provide a positive, enjoyable experience for students. It is our hope that the experiences provided by these activities will contribute to the development of an active, healthy lifestyle.

The majority of the activities are offered in ten time preferences. However, there are early morning conditioning activities, Friday-only classes at Baker Field, and special courses that utilize off-campus facilities during weekends and vacation periods. A description of the scheduled activities for each time preference is posted in the Physical Education Office, 336 Dodge Physical Fitness Center, and is included in the Department of Physical Education and Intercollegiate Athletics’ Web site. A list of the activities for the term is included in the *Directory of Classes* and on the Web site. College students can select physical education courses during on-line registration. Unless otherwise indicated, the activities are scheduled on a quarterly basis with each quarter lasting approximately seven weeks. At midterm the student selects another activity for the remainder of the term, although in many cases the student has the opportunity to continue the same activity. Students may register for only one section of physical education each term.

Students have access to a lock/towel service (\$17 fee) and, with the exception of tennis, equipment for the activities is supplied by the Physical Education Department.

The Columbia and Barnard Physical Education Departments have an exchange program. Space is reserved for Columbia College and Engineering students in selected Barnard physical education courses. A list of the Barnard courses offered through the exchange program is available in the Columbia Physical Education Office and the Barnard Physical Education Office, 209 Barnard Hall. Only students who have taken a Columbia physical education course and passed the swimming test are eligible to register for these Barnard courses.

Students who are participating on an intercollegiate team should register for the appropriate team section of *PHED C1005—Intercollegiate athletics*. Intercollegiate athletes are responsible for taking the swimming test. Student-athletes who cannot pass the test should take beginning swimming at the first possible opportunity. Student-athletes who register correctly and participate on a team receive a Pass; those who drop off a team in midterm and still wish academic credit must notify the Physical Education Office and be placed in an activity to complete the attendance requirement. Otherwise, the student must officially drop *Intercollegiate athletics* or they will receive a UW for a grade.



# Physics

**Director of Undergraduate Studies:** Jeremy Dodd, 924 Pupin; 854-3969;  
dodd@phys.columbia.edu

**Departmental Office:** 704 Pupin; 854-3348

**URL:** <http://www.columbia.edu/cu/physics>

## Professors

Igor Aleiner  
Boris Altshuler  
Elena Aprile  
Allan Blaer (emeritus)  
Norman Christ  
Brian Cole  
Brian Greene (Mathematics)  
Miklos Gyulassy  
Charles J. Hailey  
Timothy Halpin-Healy (Barnard)  
Tony Heinz (Electrical Engineering)  
Emlyn Hughes  
Lam Hui  
Philip Kim  
Tsung Dao Lee  
Robert Mawhinney  
Andrew Millis  
Alfred H. Mueller  
Reshmi Mukherjee (Barnard)  
John Parsons  
Aron Pinczuk (Applied Physics)  
Malvin Ruderman  
Michael Shaevitz  
Michael Tuts  
Yasutomo Uemura  
Erick Weinberg  
William Zajc (chair)

## Associate Professors

Andrei Beloborodov  
Gustaaf Brooijmans  
Janna Levin (Barnard)  
Szabolcs Marka  
Amber Miller  
Eduardo Ponton

## Assistant Professors

Brian Humensky  
Bradley Johnson  
Alberto Nicolis  
Abhay Pasupathy  
Tanya Zelevinsky

## Lecturer in Discipline

Jeremy Dodd

## Adjunct Professor

Morgan May

## Lecturer

Burton Budick

The physics major offers a rigorous preparation in the intellectual developments of modern physics, along with extensive exposure to the mathematical and experimental techniques required to conduct basic and applied research in physics.

For the major, the department offers a set of required courses well-suited to preparing students for the most rigorous course of graduate study. These can be supplemented by elective courses in a variety of advanced topics. Although most majors go on to graduate work in physics, the intellectual skills acquired in the study of physics can also provide the basis for work in a variety of other scientific and nonscientific areas.

The physics concentration is for students who are interested in physics but are uncertain about graduate study in physics; for those who want to explore other subjects along with physics; for those who want to find a physics- or technology-related job after graduation; or for those who are considering a professional school such as law or medicine. The department strongly encourages such concentrators. The department will help concentrators custom design programs to ensure maximum flexibility in meeting students' intellectual needs and career goals. With appropriate selection of courses, the concentrator can explore other subjects yet maintain the option of graduate study in physics.

Research is an extremely important component of the Columbia physics experience. Because the department has a very small student-to-faculty ratio, essentially all physics majors and concentrators engage in experimental, computational, or theoretical research under the close supervision of a faculty member during part, if not all, of their time at Columbia.

## Registration for Introductory Courses

The department offers three groups of beginning sequences in physics. Students are given credit for courses from only one of the three sequence groups. Mixing courses across the groups is strongly discouraged; however, physics majors who begin their studies with *PHYS C1401-C1402* should take *C2601* as the third-semester course. The sequences are intended primarily for:

*Nonscience majors: PHYS C1001-C1002.*

*Preprofessional students: PHYS V1201-V1202 or F1201-F1202, with the accompanying laboratories W1291-W1292.*

*Engineering and physical science majors: Sequence A (PHYS C1401, C1402, C1403) or Sequence B (PHYS C1601, C1602, C2601) or Sequence C (PHYS C2801, C2802), with the accompanying laboratories. Sequence A is a self-contained group of three courses, while Sequences B and C anticipate more course work in the Physics Department. Students considering a physics major are strongly encouraged to begin one of these sequences in their first year.*

## Laboratory

Many of the introductory courses include a laboratory, as indicated. A \$50 per term *laboratory fee* is charged for all 1000-level and 2000-level laboratories.

## Advanced Placement

Students may earn a maximum of 6 credits in physics. The department grants 6 credits for a score of 4 or 5 on the AP Physics B exam but the student is not entitled to any exemptions. The amount of credit is reduced to 3 if the student takes a 1000-level physics course. The department grants 3 credits for a score of 4 or 5 on the AP Physics C/MECH exam but the student is not entitled to any exemptions. The amount of credit is reduced to 0 if the student takes *PHYS 1001, 1002, 1201, 1401 or 1601*. The department grants 3 credits for a score of 4 or 5 on the AP Physics C/E&M exam but the student is not entitled to any exemptions. The amount of credit is reduced to 0 if the student takes *PHYS 1001, 1002, 1202, 1402 or 1602*.

## DEGREE REQUIREMENTS

### Regulations for all Physics Majors, Concentrators, and Interdepartmental Majors

Majors and concentrators should plan their programs of study with the director of undergraduate studies before the beginning of the junior year. Prospective physics majors are strongly encouraged to begin one of the introductory physics sequences in their first year. Majors should aim to acquire as extensive a background in mathematics as possible. The department considers laboratory experience to be an essential part of the physics curriculum. Majors and concentrators can gain such experience in the intermediate-level laboratories, the electronics laboratory and through experimental research in faculty research groups.

## GRADING

A grade of C- or better must be obtained for a course to count toward the majors or the concentration. The grade of P is not acceptable, but a course that was taken P/D/F may be counted if and only if the P is uncovered by the Registrar's deadline.

## For a Major in Physics

### PHYSICS COURSES

A minimum of 41.5 points in physics courses, including:

1. One of the following introductory sequences:

- *PHYS C1601, PHYS C1602, PHYS C2601.*
  - Students with a limited background in high school physics may elect to take *PHYS C1401, PHYS C1402, PHYS C2601.*
  - Students with advanced preparation in both physics and mathematics may be eligible to take *PHYS C2801, PHYS C2802.*
2. An additional 24.5 points of advanced courses, consisting of *PHYS W3002, PHYS W3003, PHYS W3007, PHYS W3008, PHYS G4021, PHYS G4022, PHYS G4023*, and one elective (chosen from *PHYS G4003, PHYS G4018, PHYS G4019, PHYS G4040*).
  3. 6 or 7 points of laboratory work at the intermediate level—either two semesters of *PHYS W3081* and one semester of electronics laboratory, *PHYS W3083*, or three semesters of *PHYS W3081*. Approved experimental work with a faculty research group may satisfy one semester of the laboratory requirement.
  4. Senior seminar, *PHYS W3072*.

## MATHEMATICS COURSES

Calculus through *MATH V1202* or *MATH V1208*; and *MATH V3027* or the equivalent. Recommended cognate courses: *MATH V3007* and *MATH V3028*.

### For a Concentration in Physics

24 points in physics including one of the introductory sequences.

### For a Major in Astrophysics

Students interested in a major in astrophysics should see the listing for Astronomy.

### For a Major in Biophysics

Students interested in a major in biophysics should see the listing for Biological Sciences.

### For a Major in Chemical Physics

Students interested in a major in chemical physics should see the listing for Chemistry.

### For a Major in Geophysics

Students interested in geophysics should contact the Department of Earth and Environmental Sciences about a major in earth sciences with a focus on geophysics.

# Political Science

**Director of Undergraduate Studies:** Professor Jack Snyder, 1327 IAB; 854-8290;  
jls6@columbia.edu

**Economics-Political Science Advisers:**

Economics: Susan Elmes, Director of Undergraduate Studies, 1006 IAB;  
se5@columbia.edu

Political Science: Robert Erikson, Professor, 726 IAB, 854-0036; rse14@columbia.edu

**Political Science-Statistics Advisers:**

Political Science: Robert Shapiro, Professor, 730 IAB, 854-3944; rys3@columbia.edu

Statistics: Ji Meng Loh, Associate Professor, 1255 Amsterdam Avenue, Room 1012,  
854-5370; jml2013@columbia.edu

**Departmental Office:** 710 IAB; 854-3707

**URL:** <http://www.columbia.edu/cu/polisci>

**Professors**

Lisa Anderson (also School of International  
and Public Affairs)

Jagdish Bhagwati (also Economics)

Richard K. Betts

Jean L. Cohen

Gerald L. Curtis

Rodolfo de la Garza (also School of

International and Public Affairs)

Michael Doyle (also School of International  
and Public Affairs, and School of Law)

Jon Elster

David Epstein

Robert Erikson

Timothy Frye

Ester Fuchs (also School of International and  
Public Affairs)

Andrew Gelman (also Statistics)

Fredrick Harris

Jeffrey Henig (also Teachers College)

John Huber (chair)

Robert Jervis

David C. Johnston

Ira Katznelson

Sudipta Kaviraj (also Middle Eastern, Asian  
Languages, and Africa Cultures)

Robert Lieberman (also School of  
International and Public Affairs)

Mahmood Mammdani (also Anthropology)

Manning Marable (also History)

Massimo Morelli (also Economics)

Andrew J. Nathan

Sharyn O'Halloran (also School of  
International and Public Affairs)

Nathaniel Persily (also School of Law)

Kenneth Prewitz (also School of International  
and Public Affairs)

Robert Y. Shapiro

Jack Snyder

Alfred Stepan (also School of International  
and Public Affairs)

Nadia Urbinati

**Associate Professors**

Virginia Page Fortna

Macartan Humphreys (also Earth Institute)

Jeffrey Lax

Isabela Mares

M. Victoria Murillo (also School of  
International and Public Affairs)

Melissa Schwartzberg

Michael Ting (also School of International  
and Public Affairs)

Gregory Wawro

**Assistant Professors**

Tanisha Fazal

Lucy Goodhart

Shigeo Hirano

Kimuli Kasara

Justin Phillips

Pablo Pinto

Tonya Putnam

Kay Shimizu

Dorian Warren (also School of International  
and Public Affairs)

**Senior Lecturer**

Kathleen Knight

**On Leave**

Prof. Anderson, Curtis, Hirano and Morelli  
for the academic year

Prof. Cohen, Doyle, Fazal, Kasara,  
Lieberman, Schwartzberg and Warren  
for the fall semester

Prof. Betts, Elster, Mares and Wawro for the  
spring semester

The discipline of political science is focused on issues of power and governance, and in particular on political institutions, both formal and informal. It also focuses on political behavior, political processes, political economy, and state-society relations. The field consists of four substantive subfields: the largest is the American one, which covers such topics as national and local politics, elections, and constitutional

law. The second is comparative politics, which aims at understanding the political systems of other countries, both by studying individual states and by engaging in cross-national comparisons. The third, international relations, deals with the ways that states and other political actors behave in the international arena, including such topics as security, foreign policies, international organizations, and international economic relations. Political theory analyzes the history of normative political thought as well as of analytic concepts such as the nature of justice or of liberty. Other broad topics, such as “political economy” or the study of the relationships between economic and political processes, overlap with the subfields, but also constitute a separate program (see below). Methodology, including statistical analysis and formal modeling, also occupies an important place in the discipline. Advanced Placement

### **Advanced Placement**

The department grants credit toward the major for work completed under the Advanced Placement Program at the College Entrance Examination Board (CEEB). Students receive 3 points of academic credit and exemption from *POLS W1201* or *VI501* for scores of 5 in the United States and Comparative Government and Politics CEEB Advanced Placement Examinations.

### **Advising**

The Department of Political Science offers a variety of advising resources to provide undergraduate majors and concentrators with the information and support needed to successfully navigate through the program. These resources are described below.

#### **UNDERGRADUATE ADVISING OFFICE**

Students should take questions or concerns about the undergraduate program to the department's Undergraduate Advising Office first. If advisers cannot answer a student's question, they will refer the student to the appropriate person.

The Undergraduate Advising Office is staffed by political science Ph.D. students who hold open office hours at least twice per week (the schedule can be found on-line at <http://www.columbia.edu/cu/polisci/undergrad/main/Advising/index.html>). Students should stop by during these hours with any questions about requirements, course selection, course of study, transfer and study abroad credit – and any other aspect of the program. Students should also visit the Undergraduate Advising Office for assistance in completing the political science program planning form (available in the office, or on-line at <http://www.columbia.edu/cu/polisci/undergrad/main/PlanningForms/index.html>). The advisers must sign and date this form in the approval column next to any listed class that requires approval to be counted toward the program (transfer courses, non-traditional courses, etc.). These forms cannot be completed by faculty advisers. Each student's planning form is kept on file in the department, so that they may return each semester to meet with an adviser to update it.

The advisers are also available to speak with students about more substantive issues, including research interests, internships and post-college plans. Since the advisers have been through the graduate school application process, they are great resources with whom students may discuss the process. Also, since they are current Ph.D. students in the department, they are familiar with political science faculty research interests, and can therefore refer students to a professor who may be approached regarding thesis advice, a research assistant job, or to form a connection with a faculty member whose research corresponds to a student's own interest.

#### **REQUESTING A FACULTY ADVISER**

Often the best way for students to obtain advising from a faculty member is to contact a professor with whom they have taken a class in an area of interest. Students also have the option of having a faculty adviser assigned by the department. To request a faculty adviser, students should complete the Faculty Adviser Request Form and submit it to the undergraduate coordinator, during the first two weeks of the semester.

Students may consult their faculty adviser for any substantive issue, but still must see an undergraduate adviser to have courses approved, to fill out and update planning forms, and to discuss departmental requirements and regulations.

### **DIRECTOR OF UNDERGRADUATE STUDIES**

The director of undergraduate studies, Professor Jack Snyder, oversees the undergraduate program. He is available during his office hours. While a student's first stop for advising should be the Undergraduate Advising Office, the director of undergraduate studies is available to answer any questions that the undergraduate advisers or the undergraduate coordinator cannot. In such a case, the undergraduate coordinator or the advisers would refer students to the director of undergraduate studies.

### **ECONOMICS-POLITICAL SCIENCE ADVISER**

Economics-political science majors may consult Professor Robert Erikson during his office hours. Please note that students should also see an undergraduate adviser to discuss major requirements and fill out a planning form. For any questions about the Economics-political science program that an undergraduate adviser cannot answer, students will be referred to Professor Erikson.

### **POLITICAL SCIENCE-STATISTICS ADVISER**

Political science-statistics majors may consult Professor Robert Shapiro during his office hours. Please note that students should also see an undergraduate adviser to discuss major requirements and fill out a planning form. For any questions about the Political science-statistics program that an undergraduate adviser cannot answer, students are referred to Professor Shapiro.

### **FACULTY AT-LARGE**

Students are encouraged to contact any professor for advice during his or her office hours or by arrangement, to speak about interests in any field of political science, course selection, or any other academic or post-college issues. For example, faculty members may provide advice about graduate schools, suggest literature a student might consult as sources for research, recommend specific courses or professors based on a student's interests, or offer information about research opportunities with faculty. However, students should note that any issues surrounding departmental regulations and requirements, major certification, course approvals, etc., should be taken up at the Undergraduate Advising Office.

### **Honors Program**

The department offers an honors program for a limited number of seniors who want to undertake substantial research projects and write honors theses. The honors thesis is expected to be approximately 60–75 pages in length and of exceptional quality. Honors students perform research as part of a full-year honors seminar (*POLS C3998-C3999*, 8 points total) during their senior year, in place of the seminar requirement for majors. Honors students may, however, take regular seminars to fulfill other course requirements for the major. Theses are due in late March or early April. To be awarded departmental honors, the student must satisfy all the requirements for the major, maintain a 3.6 GPA in the major, and complete a thesis of sufficiently high quality to merit honors.

The honors seminar director provides general direction of the honors seminar. The honors seminar director supervises all students; each student also works with a faculty member in his or her major subfield (American politics, comparative politics, international relations, or political theory) and a preceptor. The honors seminar meets weekly for part of the year. These meetings cover general issues involved in research and thesis writing, such as how to develop research questions and projects; methodology; sources of evidence; and outlining and drafting long papers. The sessions are also used for group discussions of students' research and student

presentations of their theses. In addition, each student is expected to meet periodically with the professor and with the preceptor supervising the thesis.

Students who wish to apply to the honors program must notify the department in writing by the end of the Spring 2010 semester. Please check the department Web site for the official deadline.

#### **APPLICATIONS MUST INCLUDE:**

1. a cover page with the student's name, CUID number, e-mail address, and school (Columbia College or General Studies);
2. an official transcript, which may be obtained from the Office of the Registrar in Kent Hall, or from Student Services On-Line.
3. a writing sample, preferably a paper written for a political science course;
4. a brief description (no more than one page) of a possible thesis topic. For guidelines for writing a proposal, please see <http://www.columbia.edu/cu/polisci/pdf-files/HonorsSeminarAppGuidelines0809.pdf>.

#### **THESE ITEMS SHOULD BE SENT TO:**

Department of Political Science  
Attn: Departmental Honors  
420 West 118th Street  
Mail Code 3320  
New York, NY 10027

In addition, students are encouraged to find a faculty sponsor for their thesis proposal. Students who have identified a faculty sponsor should indicate the sponsor in the proposal; students without a faculty sponsor should identify a faculty member with whom they would like to work. Research areas for the political science department faculty are listed on the department's website.

Students will be notified by email of the decision taken on their applications before fall registration.

Students who are not accepted into the Honors Seminar, or who decide after the application deadline that they would like to write an honors thesis may take one or two semesters of *Special Reading and Research* in order to write a thesis to submit for honors consideration. For more details about this process and for registration information, students should contact the undergraduate coordinator. Students may also submit for honors consideration a paper written for a class. Note that most honors theses are approximately 60-75 pages in length. All theses must be submitted along with a confidential assessment of the paper by the supervising instructor in order to be considered for departmental honors. Students who choose this path must also complete all the requirements for the major and maintain a minimum major GPA of 3.6. Theses are due in late March or early April, and decisions about departmental honors are announced in May.

#### **Departmental Prizes and Fellowships**

The Department of Political Science administers the following prizes and awards. Except for the Edwin Robbins Fellowship and the Phyllis Stevens Sharp Fellowship, students do not play an active part in the nomination process. Rather, faculty members nominate students at their own discretion. Departmental prizes are reserved for political science majors.

##### **CHARLES A. BEARD PRIZE**

A cash prize awarded every other year to the student who writes the best paper in political science during the academic year.

##### **CAROLINE PHELPS STOKES PRIZE**

A cash prize established at the bequest of Caroline Phelps Stokes is awarded to a student who has been a degree candidate at Columbia College or Barnard College for at least one academic year, and who has written the best essay in course or seminar work on the general subject of human rights.

### **ALLAN J. WILLEN MEMORIAL PRIZE**

A cash prize awarded to the Columbia College student who writes the best seminar paper on a contemporary American political problem.

### **EDWIN ROBBINS ACADEMIC RESEARCH/PUBLIC SERVICE FELLOWSHIP**

The Robbins Fellowship provides a stipend each summer for at least two political science students in Columbia College who will be engaged in research in important matters of politics or policy making or who will be working, without other compensation, as interns in a governmental office, agency, or other public service organization. Each spring the department invites students to submit fellowship proposals. Awards are announced in late April or early May.

### **PHYLLIS STEVENS SHARP FELLOWSHIP IN AMERICAN POLITICS**

The Phyllis Stevens Sharp Endowment Fund provides stipends each year during either academic semester or the summer for one or more Columbia College or School of General Studies students majoring or concentrating in political science to support research in American politics or policy making or otherwise uncompensated internships in a government office, agency, or other organization serving the public. Each spring the department invites students to submit fellowship proposals. Awards are announced in late April or early May.

### **Early Admission to the Master's Degree Program in Political Science for Columbia and Barnard Political Science Undergraduates**

While the Department of Political Science does not offer a joint bachelor of arts/master's degree, it does allow Columbia and Barnard undergraduates to apply for early admission to its master's degree program. This enables qualified undergraduates majoring or concentrating in political science to obtain the B.A. degree and M.A. degree in fewer than five years (ten semesters) from the time of their entrance into Columbia or Barnard, if they fulfill the M.A. course and residency requirements through summer course work after receiving the B.A. or accelerated study during the course of their undergraduate career. Students may apply as early as their junior year or the fall of their senior year to begin graduate study in the summer or fall following their graduation with the B.A. degree. The department and the Graduate School of Arts and Sciences will accept for graduate credit (advanced standing) up to nine credits of appropriate graduate courses taken at Columbia while the student is an undergraduate. Such courses must be in excess of the courses and credits required for the B.A. degree and undergraduate major or concentration.

For further information about the application process and minimal qualifications for early admission, please contact the director of undergraduate studies.

For further information about requirements for the M.A. degree, see <http://www.columbia.edu/cu/gsas/departments/political-science/bulletin.html>

### **DEGREE REQUIREMENTS**

#### **Regulations for all Political Science Majors, Concentrators, and Interdepartmental Concentrators**

#### **PLANNING FORMS**

Major Planning forms are available on-line as follows:

Political Science Major: [http://www.columbia.edu/cu/polisci/pdf-files/form\\_CCPLS.pdf](http://www.columbia.edu/cu/polisci/pdf-files/form_CCPLS.pdf)

Political Science Concentration: [http://www.columbia.edu/cu/polisci/pdf-files/Form\\_CNPOLS.pdf](http://www.columbia.edu/cu/polisci/pdf-files/Form_CNPOLS.pdf)

Economics—Political Science: [http://www.columbia.edu/cu/polisci/pdf-files/form\\_CXECPO\\_GXECPO.pdf](http://www.columbia.edu/cu/polisci/pdf-files/form_CXECPO_GXECPO.pdf)

Political Science—Statistics: [http://www.columbia.edu/cu/polisci/pdf-files/form\\_POLS\\_STAT.pdf](http://www.columbia.edu/cu/polisci/pdf-files/form_POLS_STAT.pdf)



## COURSES

Courses in Barnard College or other divisions of the university not listed on the department Web site course listing cannot be used to meet the requirement of a major or concentration in political science without the approval of an undergraduate adviser, and this should be secured in advance of registration.

## TRANSFER CREDITS

Courses in political science taken at other institutions cannot be credited toward the major without the written approval of an undergraduate adviser or the director of undergraduate studies. Students planning to transfer credits should meet with an undergraduate adviser during advising hours, or the director of undergraduate studies during office hours, as soon as they start taking courses toward the major, since the number of credits transferred (if any) are critical for subsequent planning. Students need the syllabi and transcript for courses submitted for transfer credit, and no more than 12 transfer credits may normally be credited toward the major.

## GRADING

A grade of Pass is acceptable only for the first course taken toward the major or concentration. Courses with a grade of D may not be applied toward the major or concentration.

## For a Major in Political Science

The major in political science requires a total of 29 points in political science, distributed as follows:

A total of 21 points of political science courses including should be distributed as follows and must include at least two of the three introductory courses (*POLS W1201*, *POLS V1501*, *POLS V1601*):

1. 9 points in courses in one of the four subfields:
  - American politics
  - Comparative politics
  - Political theory
  - International relations
2. 6 points in another subfield
3. 6 additional points in political science courses

There is no introductory political theory course because the Core Contemporary civilization requirement is equivalent to an introductory course in political theory.

## SEMINARS

Students are expected to take two 4-point seminars: one in their junior year and another in their senior year (with exceptions made for students on leave or studying abroad). They may choose from among the seminars offered, though at least one of the seminars taken must be in the student's major subfield (that in which at least 9 other points have been completed.) Entry into seminars requires instructor permission. Please see <http://www.columbia.edu/cu/polisci/undergrad/main/SeminarGuidelines/index.html> for detailed seminar registration guidelines. Seminars cannot be taken for R credit or Pass/D/Fail. Barnard colloquia are open to students with the permission of the instructor. However, Barnard colloquia can only count for seminar credit at the discretion of the director of undergraduate studies. Note that admission to Barnard colloquia is by application to the Barnard Political Science Department only. Please consult with the Barnard Political Science Department for more information.

## RECOMMENDED COURSES

In addition to courses in political science, students are strongly advised, but not required, to take 12 points in a related social science field.

## For a Major in Economics–Political Science

Please read *Regulations for all Economics Majors, Concentrators, and Interdepartmental Majors* in the Economics section of this bulletin.

Political economy is an interdisciplinary major that introduces students to the methodologies of economics and political science and stresses areas of particular concern to both. This program is particularly beneficial to students planning to do graduate work in schools of public policy and international affairs.

Two advisers are assigned for the interdepartmental major, one in the Department of Economics and one in the Department of Political Science. Please note that the economics adviser can only advise on the economics requirements and the political science adviser can only advise on the political science requirements.

The economics-political science major requires a total of 54 points: 19 points in economics, 15 points in political science, 6 points in mathematics, 6 points in statistical methods, 4 points in a political science seminar, and 4 points in the interdisciplinary seminar as follows. The political science courses are grouped into three areas: (1) American politics, (2) comparative politics, and (3) international relations. For the political science part of the major, students are required to select one area as a major field and one as a minor field. The corresponding introductory courses in both fields must be taken, plus two electives in the major, and one in the minor field.

1. Economics core courses (13 points)
  - *ECON W1105 Principles of economics*
  - *ECON W3211 Intermediate microeconomics*
  - *ECON W3213 Intermediate macroeconomics*
  - *ECON W4370 Political economy*
2. Mathematics sequence (6 points)
3. Statistical methods (6 points)
  - One of the following:
    - ECON W3412 Introduction to econometrics* **and** one of the statistics courses listed under *Regulations for Economics Majors, Concentrators, and Interdepartmental Majors*.
    - POLS W4911 Analysis of political data* **and** one of the statistics course listed under *Regulations for Economics Majors, Concentrators, and Interdepartmental Majors* or *POLS W4910 Principles of quantitative political research*.
4. Economics electives (6 points)
  - Two electives at the 3000 level or above
5. Political science courses (15 points)
  - Major subfield - 9 points, including the introductory course, all in one of the three subfields of American politics, comparative politics, or international relations, coordinated with the economics electives and approved in advance by the adviser
  - Minor subfield - 6 points of courses, including the introductory course in another subfield, coordinated with the economics electives and approved by the adviser
6. Seminars (8 points)
  - A Political Science Department seminar, to be approved in advance by the adviser, in the major subfield.
  - *ECPS W4921 Seminar in political economy*.

Students who fulfill their statistical methods requirement with *POLS W4910* cannot take *ECON W3412*.

## For a Major in Political Science–Statistics

The interdisciplinary major of political science–statistics is designed for students who desire an understanding of political science to pursue advanced study in this field and who also wish to have at their command a broad range of sophisticated statistical tools to analyze data related to social science and public policy research.

The major requires a minimum of 48 points, distributed as follows:

1. *Mathematics* (9 points):
  - *MATH V1101 Calculus I*
  - *MATH V1102 Calculus II*
  - *MATH V2010 Linear algebra*
2. *Computer Science* (3 points):
  - *COMS W1003, W1004* (preferred), *W1005* or *W1007*
3. *Statistics* (12 points):
  - *STAT W1001, W1111* or *W1211*
  - *STAT W3000* or *W4150*
  - *STAT W4107*
  - *STAT W4315*
4. *Political Science* (21 points):
  - Introductory courses (one of which must be taken):
    - American politics* - *POLS W1201*
    - Comparative politics* - *POLS V1501*
    - International relations* - *POLS V1601*
  - 6 points in the same subfield as the intro course
  - A 4-point political science seminar in that subfield
5. *POLS W4910*
6. *POLS W4911*
7. An elective in a quantitatively oriented course, approved by an undergraduate adviser, in statistics or a social science (e.g., political science, anthropology, sociology)

### **For a Concentration in Political Science**

A total of 21 points of political science courses, including 6 points of courses in each of two of the following subfields: American politics, comparative politics, political theory, and international relations and foreign policy. At least two of the three introductory courses must be taken (*POLS W1201*, *POLS V1501*, *POLS V1601*; see requirements for a major in political science).

In addition to courses in political science, students are strongly advised, but not required, to take 12 credits in a related social science field.

# Psychology

## **Director of Undergraduate Studies, Undergraduate Programs, and Laboratories:**

Prof. Lois Putnam, 314 Schermerhorn; 854-4550; putnam@psych.columbia.edu

## **Directors of Psychology Honors Program:**

Prof. Kevin Ochsner, 369 Schermerhorn Extension; 854-5548;  
ochsner@psych.columbia.edu

Prof. Sarah Woolley, 317 Schermerhorn; 854-5448; sw2277@columbia.edu

## **Directors of Undergraduate Studies:**

### *Psychology Major and Concentration:*

Prof. Patricia Lindemann, 358E Schermerhorn Extension; 854-8285; pg12@columbia.edu

Prof. Norma Graham, 372A Schermerhorn Extension; 854-5591; nvgl1@columbia.edu

Prof. Carl Hart, 316 Schermerhorn; 854-5313; clh42@columbia.edu

### *Neuroscience and Behavior Major:*

Psychology: Prof. Frances Champagne, 315 Schermerhorn; 854-2589;  
fac2105@columbia.edu

Psychology: Prof. Hakwan Lau, 355 Schermerhorn Extension; 854-1925;  
hakwan@psych.columbia.edu

Biology: Prof. Stuart Firestein, 923 Fairchild; 854-4531; sjf24@columbia.edu

Biology: Prof. Deborah Mowshowitz, 744D Mudd; 854-4497; dbm2@columbia.edu

**Preclinical Adviser:** Prof. E'mett McCaskill, 415O Milbank; 854-8601; emccaski@barnard.edu

**Administrative Coordinator:** Joanna Borchert-Kopczuk, 406 Schermerhorn; 854-3940;  
jb2330@columbia.edu

**Undergraduate Curriculum Assistant:** Andres Torres, 406 Schermerhorn; 854-8859;  
uca@psych.columbia.edu

**Departmental Office:** 406 Schermerhorn; 854-3608; <http://www.columbia.edu/cu/psychology/>

## **URL: Undergraduate InfoPack**

<http://www.columbia.edu/cu/psychology/dept/ugrad/infopack.html>

## **Professors**

Niall Bolger (chair)

Geraldine Downey

Norma Graham

Tory Higgins

Joy Hirsch (Radiology and Center for  
Neurobiology and Behavior)

Donald C. Hood

Sheena S. Iyengar (Business School)

David Krantz

Leonard Matin

Janet Metcalfe

Walter Mischel

Michael Morris (Business School)

Lois Putnam

Rae Silver (Barnard)

Claude Steele (Provost)

Edward Smith

Yaakov Stern (Neurology and Psychiatry)

Herbert Terrace

Elke Weber

## **Associate Professors**

Carl Hart

Kevin Ochsner

Lisa Son (Barnard)

## **Assistant Professors**

Frances Champagne

Hakwan Lau

Koleen McCrink (Barnard)

## **Assistant Professors (continued)**

Valerie Purdie-Vaughns

Daphna Shohamy

Betsy Sparrow

Sarah Woolley

## **Adjunct Faculty**

Adam Brickman (Neurology)

Jason Buhle

Justin Cavallo

James Curley

Min Gong

Christian Habeck (Neurology)

Marija Kundakovic

Stacey Lutz

E'mett McCaskill

Joy McClure

Katherine Nautiyal

Brian Rakitin

Steen Sehnert

Kathleen Taylor

Michelle Wan

## **Lecturer in Discipline**

Patricia Lindemann

## **On Leave**

Profs. Downey, Higgins, Hood, Krantz,  
Matin, and Mischel for the academic year

Profs. Ochsner, Shohamy, Terrace, and  
Weber for the fall semester

Prof. Sparrow for the spring semester

The mission of the B.A. programs in the Department of Psychology is to offer students a balanced curriculum in psychological science, including research methods,

perception, cognition, neuroscience, developmental, social, personality, and clinical areas. The curriculum prepares majors for graduate education in these fields and provides a relevant background for social work, education, medicine, law, and business. The department offers an honors program for outstanding students and encourages all majors to participate in advanced seminars and supervised research. Psychology course offerings are designed to meet the needs and interests of a wide variety of students, from those wishing to explore a few topics in psychology or to fulfill the science requirement, to those interested in majoring in psychology or in neuroscience and behavior. Our Program Goals start with the development of a solid knowledge base in psychological science. Consistent with the value psychology places on empirical evidence, courses at every level of the curriculum nurture the development of skills in research methods, quantitative literacy, and critical thinking, and foster respect for the ethical values that undergird the science of psychology.

Most of these Program Goals are introduced in *The Science of psychology (PSYC W1001)*, which is the recommended first psychology course, is required for all majors, and satisfies the prerequisite for most 2000-level courses. These goals are extended and reinforced in our statistics (*PSYC W1610*) and research methods (*1400s*) laboratory courses, as well as in the 2000-level lecture courses and 3000- and 4000-level seminars. Each of the lecture courses at the 2000 level provides students with the opportunity to study systematically, and in greater depth, one of the content areas introduced in *PSYC W1001*. These lecture courses are the principal means by which psychology majors satisfy the distribution requirements, insuring not only depth but also breadth of coverage across three central areas of psychology: (1) sensation/perception/cognition, (2) behavioral neuroscience, and (3) social/personality /abnormal. To complete the major, we recommend that students participate in advanced seminars and research courses, where they will have the opportunity to explore research questions in depth and further develop their written and oral communication skills.

Many opportunities exist for becoming involved in research projects in the Department of Psychology. All qualified students are welcome. Students may volunteer to work in a lab, register for supervised individual research (*PSYC W3950*), or participate in the department's two-year Honors Program. Information on faculty research is available on the department's website. Students are advised to read about the research laboratories on faculty lab sites and go to the professor's office hours to discuss potential research opportunities. At the beginning of each term, the department also hosts a lab-preview event for students to learn about research opportunities for the upcoming semester.

Majors and concentrators in psychology and majors in neuroscience and behavior should begin planning a program of study as early as possible. All necessary forms and information are available outside 406 Schermerhorn or in the Undergraduate InfoPack. Students should complete a Major Requirement Checklist before consulting an adviser and before starting their final semester. Returning students should check the department website for recent updates to the curriculum.

## Advising

Current and prospective neuroscience and behavior majors should consult either Prof. Champagne or Prof. Lau. Current and prospective psychology majors and concentrators whose last names begin with A-K should consult Prof. Lindemann. Students whose last names begin with L-Q should consult Prof. Graham. Students whose last names begin with R-Z should consult Prof. Hart. Students who cannot contact their adviser should consult Prof. Putnam. For additional information about program, faculty, peer, and pre-clinical advising please see the Psychology Undergraduate Advising Resources website.

## Guide to Course Numbers

Course numbers reflect the structure of the psychology curriculum. The 1000 level contains introductions to psychology, introductory laboratory courses, and statistics. *PSYC W1001 The Science of psychology* and *PSYC W1010 Mind, brain, and behavior* are introductory courses with no prerequisites. Either one can serve as the prerequisite for most of our 2000-level courses. However, most students find it

advantageous to take *PSYC W1001* first. The 2000 level contains lecture courses that are introductions to areas within psychology; most require *PSYC W1001* or *PSYC W1010* as a prerequisite. The 3000 level contains more advanced and specialized undergraduate courses; most are given in a seminar format and require instructor permission. The 3900s are the courses providing research opportunities for undergraduates. The 4000 level contains advanced seminars suitable for both advanced undergraduates and graduate students.

Subcategories within the 2000, 3000, and 4000 levels correspond to the three groups in our distribution requirement for undergraduate psychology majors: (1) perception and cognition (2200s, 3200s, and 4200s), (2) psychobiology and neuroscience (2400s, 3400s, and 4400s), and (3) social, personality, and abnormal (2600s, 3600s, and 4600s).

## Honors Program

The department offers an honors program, designed for a limited number of juniors and seniors interested in participating in research. Beginning in the first term of their junior year and continuing through senior year, students take the *Honors seminar* (*PSYC W3910*) and simultaneously participate in an honors research course (*PSYC W3920*) under the supervision of a member of the department. Students make a formal presentation and complete an honors essay based on this research toward the end of their senior year. To qualify for honors, students must take a total of 6 points beyond the number required for their major and satisfy all other requirements for the major. The additional 6 points may include the *Honors seminar* and research courses. Interested students should apply at the end of their sophomore year. Instructions and an application form are available on the department's website.

## Requirements for Admission to Graduate Programs in Psychology

Most graduate programs in psychology, including those in clinical psychology, require an undergraduate course in introductory psychology (*PSYC W1001*), a course in statistics (e.g., *PSYC W1610*, *STAT W1001*, *STAT W1111*, or *STAT W1211*), and a laboratory course in experimental psychology (*PSYC W1420*, *W1440*, *W1450*, *W1455*, *W1480*, or *W1490*). Students should also take a variety of more advanced undergraduate courses and seminars and participate in *Supervised individual research* (*PSYC W3950*).

Students interested in clinical psychology should obtain experience working in a community service program, in addition to supervised individual research experience. Students should consult the department's pre-clinical adviser, Prof. E'mett McCaskill, and attend the department's pre-clinical advising events for more information. Additional resources to help prepare students for graduate study in psychology, and for careers in clinical psychology, are available on the Department of Psychology's Web site.

## On-Line Information

The Department of Psychology maintains an active website, with syllabi posted for most lecture and lab courses and for many advanced seminars. Students should read the on-line course syllabi prior to registering for psychology courses. For assistance in finding all necessary resources, students should contact the undergraduate curriculum assistant, 406 Schermerhorn, 854-8859, [uca@psych.columbia.edu](mailto:uca@psych.columbia.edu).

## E-mail Communication

The department maintains an e-mail distribution list with the UNIs of all declared majors. Students are held responsible for information sent to their Columbia e-mail addresses. Students should read these messages from the department regularly and carefully. They are intended to keep students informed about deadlines, requirements, events, and opportunities.

## Science Requirement

*PSYC W1001 The Science of psychology*, *PSYC W1010 Mind, brain, and behavior*, and any PSYC course numbered in the *W2200s* or *W2400s* may be used to fulfill the science requirement. *W2600*-level and some other psychology courses (including *PSYC BC1001 Introduction to psychology* and all other Barnard psychology courses) may **not** be used to fulfill the science requirement. For more detailed information regarding psychology courses that may be applied toward the science requirement, see Core Curriculum in this bulletin.

## Evening and Columbia Summer Courses

The department normally offers at least one lab course (currently *PSYC W1420* and *W1450*) in the late afternoon with evening labs. A number of other courses are occasionally offered in late afternoon and evening hours. No more than one quarter of the courses required for the major are normally available in the evening. Working students may find the wide variety of early morning (9:10 a.m.) classes, as well as Summer Session offerings, helpful in completing degree requirements.

Any “S” course offered by the Psychology Department during the Summer Session is applicable toward the same major requirement(s) as the corresponding “W” course of that same number offered during the academic year. (For instance, *PSYC S1001* meets the same major requirements as does *PSYC W1001*.) See *Programs of Study*—The Columbia Summer Session in this bulletin for additional information.

## DEGREE REQUIREMENTS

### Regulations for all Psychology Majors, Concentrators, and Neuroscience and Behavior Majors

#### DOUBLE MAJORS/CONCENTRATIONS

All students attempting to complete double majors, double concentrations, or a combination of a major and a concentration must complete separate sets of required and related courses for each field. A single course may not be counted twice. Please consult with one of the directors of undergraduate studies or departmental advisers if you have questions. Note that students attempting to complete two majors with a statistics requirement will generally be able to use one course (e.g. *STAT W1211*) to satisfy the requirement for both majors (i.e., the student will not need to take two different statistics courses); however, the points for the course may only be applied to one of the majors.

#### OVERLAPPING COURSES

Students will not receive credit for two courses—one at Columbia and one at Barnard—whose content largely overlaps (e.g., *PSYC BC1001 Introduction to psychology* and *PSYC W1001 The Science of psychology* or *PSYC BC1138 Social psychology* and *PSYC W2630 Social psychology*).

#### GRADE REQUIREMENTS FOR THE MAJOR

A grade of C- or higher must be earned and revealed on the transcript in any Columbia or Barnard course—including the first—that is used to satisfy the major requirements. The grade of P is not accepted for psychology major, psychology concentration, or neuroscience and behavior major credit. Courses taken on a Pass/D/Fail basis may not be used to satisfy the major or concentration requirements unless the grade of P is uncovered by the Registrar's deadline. Courses taken on a Pass/Fail basis may not be used to satisfy the major or concentration requirements under any circumstances.

### For a Major in Psychology

Thirty or more points are needed to complete the major. The program must include:

1. The introductory psychology course (*PSYC W1001 The Science of psychology*)
2. One statistics course chosen from among the following:

- *PSYC W1610 Introductory statistics for behavioral scientists* (recommended)
  - *STAT W1001 Introduction to statistical reasoning*
  - *STAT W1111 Introduction to statistics* (without calculus)
  - *STAT W1211 Introduction to statistics* (with calculus)
3. One laboratory course chosen from among the following:
- *PSYC W1420 Experimental psychology: human behavior*
  - *PSYC W1450 Experimental psychology: social cognition and emotion*
  - *PSYC W1455 Experimental psychology: social and personality*
  - *PSYC W1480 Experimental psychology: perception and attention*
  - *PSYC W1490 Experimental psychology: thinking and decision making*

Majors are advised to complete the statistics and laboratory requirements by the junior year. Starting in Fall 2011, a statistics course will be a prerequisite for the laboratory course.

### DISTRIBUTION REQUIREMENT

One course must be taken from each of the following groups (in addition to the courses described above):

1. Group I—perception and cognition: courses numbered in the 2200s, 3200s, or 4200s. Also *PSYC W1420, W1480, and W1490*
2. Group II—psychobiology and neuroscience: courses numbered in the 2400s, 3400s, or 4400s. Also *PSYC W1010*
3. Group III—social, personality, and abnormal: courses numbered in the 2600s, 3600s, or 4600s. Also *PSYC W1450 and W1455*

No course may be counted twice in fulfillment of the above requirements.

### RESEARCH CREDITS

No more than 8 points of *Supervised individual research* (*PSYC W3950*) may be applied toward the major, and no more than 4 points may be taken in any one term.

### BARNARD COURSES

No more than 9 points from Barnard psychology courses, including *PSYC BC1001*, may be applied as credit toward the major. *PSYC BC1001* will fulfill the introductory course (*PSYC W1001*) requirement, but Barnard courses may not be applied toward the laboratory, statistics, or distribution (Group I, II, III) requirements. Written approval is not required for *PSYC BC1001*, or for any Barnard courses applied as elective credit.

### TRANSFER CREDITS

No more than 9 transfer credits (including any Barnard credits) are accepted toward the psychology major. Approval of transfer credits on a student's Entrance Credit Report toward general requirements for the bachelor's degree does **not** grant approval of these credits toward the psychology major. Approval of transfer credits to fulfill psychology requirements **must** be obtained in writing from a psychology program adviser using the Major Requirement Substitution Form. To be approved for the major a course taken at another institution should be substantially similar to one offered by the department and the grade received must be a B– or better. With the exception of Barnard courses, students should consult one of the directors of undergraduate studies before registering for psychology courses offered outside the department.

Students who have completed an introductory psychology course at another institution prior to declaring a psychology major should consult one of the directors of undergraduate studies to verify whether or not this course meets departmental standards for major transfer credit. If transfer credit toward the major is not approved, the student must enroll in *PSYC W1001* or *PSYC BC1001* to complete this major requirement. Note that College Board Advanced Placement (AP) psychology scores



do **not** satisfy the *PSYC W1001* requirement, nor do they confer elective credit toward the major.

### For a Major in Neuroscience and Behavior

The department cosponsors a combined major in neuroscience and behavior with the Department of Biological Sciences.

No course may be counted twice in fulfillment of the biology or psychology requirements described below. A grade of C– or higher must be earned and revealed on the transcript for any Columbia or Barnard course—including the first—that is used to satisfy the major requirements. The grade of P is not accepted for neuroscience and behavior credit; the P must be uncovered by the Registrar's deadline for the course to be applicable toward the major requirements.

Most graduate programs in neuroscience require one year of calculus, one year of physics, and chemistry through organic.

### REQUIRED COURSES

In addition to one year of general chemistry (or the high school equivalent), ten courses are required to complete the major—five from the Department of Biological Sciences and five from the Department of Psychology. For the definitive list of biology requirements, see The Department of Biological Sciences website.

#### REQUIRED BIOLOGY COURSES

1. *BIOL C2005 Introduction to biology I: biochemistry, genetics and molecular biology*
2. *BIOL C2006 Introduction to biology II: cell biology and physiology*
3. *BIOL W3004 Cellular and molecular neurobiology*
4. *BIOL W3005 Systems neurobiology*
5. One additional 3000- or 4000-level biology course from a list approved by the biology adviser to the program.

#### REQUIRED PSYCHOLOGY COURSES

1. *PSYC W1001 The Science of psychology*
2. *PSYC W1010 Mind, brain, and behavior* or *PSYC W2450 Behavioral neuroscience*
3. A statistics or lab course chosen from among the following:
  - *PSYC W1420 Experimental psychology: human behavior*
  - *PSYC W1450 Experimental psychology: social cognition and emotion*
  - *PSYC W1480 Experimental psychology: perception and attention*
  - *PSYC W1490 Experimental psychology: thinking and decision making*
  - *PSYC W1610 Introductory statistics for behavioral scientists*
  - *STAT W1111 Introduction to statistics* (without calculus)
  - *STAT W1211 Introduction to statistics* (with calculus)
4. One additional 2000- or 3000-level psychology course from a list approved by the psychology adviser to the program.
5. One advanced psychology seminar from a list approved by the psychology adviser to the program.

For assistance in planning the psychology portion of the neuroscience and behavior major, please refer to the Program Planning Tips website and use the appropriate Major Requirement Checklist from the department website.

#### TRANSFER CREDIT FOR PSYCHOLOGY COURSES TAKEN ELSEWHERE

Students should consult a psychology adviser before registering for psychology courses offered outside the department. With the adviser's approval, one, and only one, course from another institution, including Barnard, may be applied toward the psychology portion of the neuroscience and behavior major. Students who wish to obtain credit for a course taken at Barnard or at another institution should complete the Major Requirement Substitution Form. **To be approved for the major, the course should be substantially similar to one offered by this department and**

**approved for this major, and the grade received must be a C- or better if from Barnard, or B- or better if from another institution.** Advanced placement (AP) psychology scores will **not** satisfy the *PSYC W1001* requirement.

### **EXCEPTIONS TO BIOLOGY REQUIREMENTS**

Any exceptions must be approved in advance by a biology adviser and you must receive an email notification of that approval. Students may substitute Barnard College courses only with prior permission from an adviser.

### **For a Concentration in Psychology**

A concentration in psychology requires a minimum of 18 points, including *The Science of psychology (PSYC W1001)* and courses in at least two of the three groups listed under “Distribution requirement” for the psychology major. Restrictions on research credits (*PSYC W3950*), Barnard credits, and transfer credits are modified from those of the psychology major as follows: (1) only 4 points of *PSYC W3950*, (2) only 5 points from Barnard (including *PSYC BC1001*), and (3) only 5 points total (including any Barnard points) from psychology courses taken outside the department may be applied toward the concentration. Except as noted above, other regulations outlined in the psychology major section regarding grades, transfer credits, and overlapping courses also apply toward the concentration.

## Regional Studies

The regional studies major is designed to give undergraduates the general mastery of a discipline and at the same time permit them to do specialized work in the history and cultures of a particular geographic area through the associated institutes of the Faculty of Arts and Sciences. It is an interdisciplinary major in which students divide their work between the associated institute and an appropriate College department. Students plan their programs with the consultant of the associated institute. General requirements for a regional studies major are listed below.

### DEGREE REQUIREMENTS

#### For a Major in Regional Studies

A minimum of 36 points, of which 18 must be credited by the associated institute listed below, and an additional 18 must be in one of the College departments designated as relevant by the institute. Six points of seminar work approved by the institute are required of all majors and are included in the total of 36 points.

### LANGUAGE STUDY

See requirements of individual institutes. Courses taken to satisfy the institute's language requirement are not counted toward the 18 institute points.

### EAST CENTRAL EUROPEAN CENTER

**Director:** Prof. Alan Timberlake, 708 Hamilton; 854-3941

**Related departments:** Anthropology, Economics, History, Political Science, Slavic Languages, and Sociology.

**Language requirement:** Two years or demonstrated reading knowledge of one of the following languages: Czech, Hungarian, Polish, Romanian, Russian, Serbian/Croatian/Bosnian, or Ukrainian.

A current list of courses available to students interested in East Central European studies can be obtained from the center, 1227 International Affairs Building.

# Religion

**Director of Undergraduate Studies:** Prof. Courtney Bender, Room 202, 80 Claremont;  
851-4134; [cb337@columbia.edu](mailto:cb337@columbia.edu)

**Academic Department Administrator:** Meryl Marcus, Room 103B, 80 Claremont; 851-4124;  
[mm3039@columbia.edu](mailto:mm3039@columbia.edu)

**Departmental Office:** Room 103, 80 Claremont; 851-4122

<http://www.columbia.edu/cu/religion/>

## URL:

### Professors

Peter Awn  
Randall Balmer (Barnard)  
Elizabeth Castelli (Barnard)  
Bernard Faure  
John Hawley (Barnard)  
Wayne Proudfoot  
Robert Somerville  
Mark Taylor (Chair)  
Robert Thurman  
Chun-fang Yu

### Associate Professors

Gil Anidjar  
Courtney Bender  
Michael Como

### Associate Professors (continued)

Rachel McDermott (Barnard)  
David (Max) Moerman (Barnard)  
Jonathan Schorsch

### Assistant Professor

Najam Haider (Barnard)  
Josef Sorett

### Adjunct Associate Professor

Celia Deutsch (Barnard)

### Visiting Scholar

Obery Hendricks

### Lecturer, Classical Tibetan

Lozang Jamspal

The contemporary approach to study of religion is both multidisciplinary and multicultural. Religious traditions that were formerly associated with particular social, historical, and cultural contexts, and could be neatly parceled out in area studies, are now in daily interaction with other traditions that might differ in their approaches to belief, ritual, scripture, or sacrifice.

The commitment of the Religion Department at Columbia to comparative and interdisciplinary investigation is reflected not only in the areas of research covered by its faculty, but also in its integrated curriculum, which draws substantially from other resources at the University and neighboring institutions. Faculty members subscribe to a variety of methods and theoretical approaches, from text-based criticism, and philological and linguistic analysis, to theoretical insights drawn from engagement with other disciplines including history, philosophy, sociology, and anthropology.

A solid foundation in the study of religious traditions in their historical context is an essential part of the department's teaching. This firm grounding in traditions also reinforces our students' ability to engage in current theoretical debates in the field of religious studies with a deeper awareness of the issues involved. They are thus able to draw upon the department's strength in comparative study, philosophy, history, and theory to balance in-depth study of religion in a particular focus area with a critical introduction to a wide range of religious practices, ideas, histories, and texts. Students are expected to pursue a course of study that develops this "double vision," so that they learn and develop the tools and knowledge with which to pose important questions about religious phenomena. Breadth, like depth, can be defined along various parameters. A student with a background in philosophy and ethics might be encouraged, for example, to pursue courses that offer an historical approach to religious traditions; a student who develops a specialization in Hinduism might take courses in Christianity or Islam. A major in the study of religion provides a broad-based liberal arts education.

The study of religion at Columbia is enhanced by the University's wide offerings in the languages of the major religious traditions of the world: Arabic, Chinese, Greek, Hebrew, Japanese, Latin, Persian, Sanskrit and other Indic languages, and Tibetan, among others.

The Jewish Theological Seminary of America and Union Theological Seminary are located near the campus. Students are encouraged to use the resources that they offer, including their world-renowned libraries.

Students are encouraged to declare their major/concentration by the end of the sophomore year, or the beginning of their junior year. Prospective majors should first arrange to meet with the director of undergraduate studies. All students are then allocated a faculty adviser, and must submit a copy of the Declaration of Major form to the director of undergraduate studies. Those students interested in applying for the honors track should see the appropriate section below. After meeting with their adviser, and agreeing upon a plan for the major or concentration, students must obtain final approval and confirmation from the director of undergraduate studies.

### **Senior Thesis**

Many students choose to write a senior honors thesis or paper in order to pursue an advanced topic in greater depth, or to work on a particular area of interest with a professor of their choosing. This opportunity is available to all students who major in the department, regardless of GPA, and serves for many as the capstone experience of their undergraduate career.

Students who write a senior thesis may apply for up to 4 points of directed reading with their thesis adviser toward the major. An application for the honors thesis in religion must be submitted for approval to the director of undergraduate studies no later than the spring of the junior year. The application must include both a prospectus for the paper and a letter of support by the faculty member who has agreed to direct the thesis. The prospectus (5–7 pages) should detail a research program and the central question or questions to be pursued in the paper, preparation for the thesis, and a timeline. The primary adviser of the thesis must be a member of the Religion Department faculty.

The application submission date is set sufficiently early in the spring semester to allow students to prepare a prospectus that is suitable for use in applying for outside funding for summer research, should such funds be available.

### **Grading**

Courses in which a grade of D has been received do not count toward the major or concentration requirements.

### **Departmental Honors**

Students who write a senior thesis and who maintain a GPA of 3.66 or above in the major may be considered for departmental honors. Writing a senior thesis qualifies a student for consideration for departmental honors but does not assure it. Normally, no more than 10 percent of graduating majors in the department each year may receive departmental honors.

### **Graduate Courses**

Courses of possible interest to College students, which are open to qualified undergraduates with the instructor's permission, are described in the bulletin of the Graduate School of Arts and Sciences.

### **Course Numbering**

Courses are numbered by level and type:

1. 2000 level: Introductory and “traditions” lectures
2. 3000 level: Intermediate lecture
3. 4000 level: Undergraduate seminar and field:
4. x000 -099: Buddhism
5. x100-199: Christianity
6. x200-299: Hinduism
7. x300-399: Islam
8. x400-499: East Asian religious traditions
9. x500-599: Judaism
10. x600-699: North American religions
11. x700-799: Philosophy of religion
12. x800-899: Comparative
13. x900 -999: Methodological, theoretical, research

## DEGREE REQUIREMENTS

### For a Major in Religion

All majors are encouraged to pursue both depth and breadth by constructing a program of study in consultation with the director of undergraduate studies and with a member of the faculty in an area in which they have particular interest. The program should include courses in both Western and Asian religious traditions. Students who write a senior thesis may include a term of individually supervised research as one of the courses for their major.

A minimum of 36 points is required as follows:

1. Two introductory courses to religious traditions (2000 level; one may be Barnard 2000 level)
2. Four intermediate religion courses (3000 level)
3. Two advanced courses (4000 level, including one seminar)
4. Two related courses in other departments (must be approved by the director of undergraduate studies)
5. *RELI V3799 Juniors' colloquium* (4 points)

### For a Concentration in Religion

The program of study should be planned in consultation with the director of undergraduate studies and with a member of the faculty in an area in which the student has a particular interest. The program should include some study in both western and Asian religious traditions.

A minimum of 23 points is required:

1. Two introductory courses to religious traditions (2000 level; one may be Barnard 2000)
2. Two intermediate Religion courses (3000 level)
3. Two advanced seminar (4000 level)
4. One related course in another department (must be approved by the director of undergraduate studies)
5. *RELI V3799 Juniors' colloquium* (4 points)

## Science, Technology, and Society

### Interschool Advisory Committee for Science, Technology, and Society

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History  
1115 IAB  
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The University offers a number of courses in the area of science, technology, and society, and although it does not at this time offer a major or concentration to undergraduates in Columbia College, a variety of courses from different disciplines are offered, which should be of interest to anyone wishing to pursue work in science, technology, and society. The list is not intended to be all-inclusive; students interested in science, technology, and society should speak to members of the committee. Full descriptions can be found in the appropriate departmental sections of the bulletin. Please note that descriptions of the engineering courses can be found in the *Fu Foundation School of Engineering and Applied Sciences Bulletin*.

# Slavic Languages

**Director of Undergraduate Studies:** Prof. Frank J. Miller, 701 Hamilton, 854-8155, [fjm6@columbia.edu](mailto:fjm6@columbia.edu); Prof. Tatiana Smoliarova, 1126 IAB; 854-8590; [ts2288@columbia.edu](mailto:ts2288@columbia.edu)

**Language Coordinator:** Prof. Frank J. Miller, 701 Hamilton; 854-8155; [fjm6@columbia.edu](mailto:fjm6@columbia.edu)  
**Departmental Office:** 708 Hamilton; 854-3941

**URL:** <http://www.columbia.edu/cu/slavic/>

## Professors

Robert L. Belknap (emeritus)  
 Boris Gasparov  
 Frank J. Miller  
 Catharine Nepomnyashchy (Barnard)  
 Cathy Popkin  
 Irina Reyfman  
 Alan Timberlake

## Associate Professors

Valentina Izmirlieva  
 Liza Knapp (chair)

## Assistant Professors

Tatiana Smoliarova  
 Rebecca Stanton (Barnard)

## Senior Lecturers

Anna Frajlich-Zajac  
 Radmila Gorup  
 Alla Smyslova

## Lecturers

Christopher Harwood  
 Yuri Shevchuk

## Senior Associate

Mara Kashper (Barnard)

## On Leave

Catharine Nepomnyashchy (Barnard)

The Slavic peoples make up one of the world's most numerous and politically significant families of nations. They fall into three major geocultural groupings: the East Slavs (Russians, Belorussians, Ukrainians); the West Slavs (Poles, Czechs, Slovaks, Lusatians); and the South Slavs (Slovenes, Serbs, Croats, Macedonians, Bulgarians).

The Department of Slavic Languages offers instruction in Russian, Polish, Czech, Serbian/Croatian/Bosnian, and Ukrainian languages and literatures.

## Study Abroad

Students are encouraged to take advantage of the opportunities that now exist to spend a semester or summer studying in Russia, the Czech Republic, Poland, Ukraine, or the countries of the former Yugoslavia. Consult the coordinator of the relevant language program for information about programs and other resources.

## Senior Thesis

A senior thesis is not required for any Slavic Department major. Students who wish to undertake a thesis project should confer with the director of undergraduate studies during the registration period in April of their junior year and register to take the *Senior seminar (RUSS V3595)* in the fall term of their senior year. Those who opt to expand the thesis into a two-semester project register for *Supervised individual research* with their thesis advisor (*RUSS W3998*) in the spring. (*Senior seminar* may be used to satisfy one elective requirement; the optional second semester of thesis work adds one course to the 15 required for the major.)

## Grading

Courses in which a grade of D has been received do not count toward major or concentration requirements

## Departmental Honors

Students who have a grade point average of at least 3.6 in courses taken for the major and who have submitted a senior thesis of outstanding quality may be considered for



departmental honors. Normally, no more than 10 percent of the graduating majors may be awarded departmental honors in any given year.

## DEGREE REQUIREMENTS

### For a Major in Russian Language and Culture

This major is intended for students who aim to attain maximal proficiency in the Russian language. Intensive language training is complemented by an array of elective courses in Russian culture that allow students to achieve critical understanding of contemporary Russian society and of Russian-speaking communities around the world.

Since this major emphasizes language acquisition, it is not appropriate for native Russian speakers.

The program of study consists of 15 courses, eight of which meet language requirements. Of the remaining seven courses, two are introductory surveys in either Russian culture or Russian literature (in translation), and the other five are electives, chosen in consultation with the director of undergraduate studies.

The course requirements are distributed as follows:

1. Eight semesters of coursework in Russian language (from first- through fourth-year Russian) or the equivalent
2. Two of the following surveys: at least one of these should be a Russian culture survey (*RUSS V3223* or *RUSS V3227*):
  - *RUSS V3220 Literature and empire: the rise of the novel in Russia (19th century)*
  - *RUSS V3221 Literature and revolution: tradition, innovation, and politics in Russian culture (20th century)*
  - *RUSS V3223 Magical mystery tour: the legacy of Old Rus'*
  - *CLRS W4431 Theatricality and spectacle in the history of Russian culture*
3. Five additional courses in Russian culture, history, literature, art, film, music, or in linguistics. At least one of the selected courses should be taught in Russian.

### For a Major in Russian Literature and Culture

The goal of this major is to make students conversant with a variety of Russian literary, historical and theoretical texts in the original, and to facilitate a critical understanding of Russian literature, culture, and society. It is addressed to students who would like to complement serious literary studies with intensive language training, and is especially suitable for those who intend to pursue an academic career in the Slavic field.

The program of study consists of 15 courses, six of which meet language requirements. Of the remaining nine courses, three are introductory surveys in Russian literature and culture (in translation), and the other six are electives, chosen in consultation with the director of undergraduate studies.

The course requirements are distributed as follows:

1. Six semesters of coursework in Russian language (from first- through third-year Russian) or the equivalent
2. Three of the following surveys:
  - *RUSS V3220 Literature and empire: the rise of the novel in Russia (19th century)*
  - *RUSS V3221 Literature and revolution: tradition, innovation, and politics in Russian culture (20th century)*
  - *RUSS V3223 Magical mystery tour: the legacy of Old Rus'*
  - *CLRS W4431 Theatricality and spectacle in the history of Russian culture*
3. Six additional courses in Russian literature, culture, history, film, art, music, or in advanced Russian language. At least one of the additional courses should be taught in Russian.

Students considering graduate study in Russian literature are strongly advised to complete four years of language training.

## For a Major in Slavic Studies

This flexible major provides opportunities for interdisciplinary studies within the Slavic field. Students are encouraged to choose one target language (Czech, Polish, Russian, Serbian/Croatian/Bosnian, or Ukrainian), though there are possibilities for studying a second Slavic language as well. Generally, the major has one disciplinary focus in history, political science, economics, religion, anthropology, sociology, art, film, or music. In addition, this program allows students to focus on a particular Slavic (non-Russian) literature and culture or to do comparative studies of several Slavic literatures, including Russian. Students should plan their program with the director of undergraduate studies as early as possible, since course availability varies from year to year.

The program of study consists of 15 courses, six of which meet language requirements. Of the remaining nine courses, two should be history courses targeting Russia, Eastern and Central Europe, or Eurasia; two should be literature or culture courses in Slavic; and the other five should be relevant electives, chosen in consultation with the director of undergraduate studies. Students may also opt to include a second Slavic language in their program, in which case they may count up to two language courses as electives toward their major requirements.

### REQUIREMENTS:

The course requirements are distributed as follows:

1. Six semesters of coursework in one Slavic language (from first- through third-year Russian, Czech, Polish, Serbian/Croatian/Bosnian, or Ukrainian) or the equivalent
2. Two relevant courses in Russian, East/Central European or Eurasian history
3. Two relevant literature or culture courses in Slavic, preferably related to the target language
4. Five additional courses with Slavic content in history, political science, economics, literature, religion, anthropology, sociology, art, film, or music. Two of these electives may be language courses in a second Slavic language.

Altogether students should complete four courses in a single discipline, including, if appropriate, the required history or literature/culture courses.

## For a Concentration in Russian Language and Culture

This program is intended for students who aim to attain proficiency in the Russian language. Intensive language training is complemented by an array of elective courses in Russian culture that allow students to achieve critical understanding of contemporary Russian society and of Russian-speaking communities around the world.

Since this concentration emphasizes language acquisition, it is not appropriate for native Russian speakers.

The program of study consists of 10 courses, six of which meet language requirements. Of the remaining four courses, at least one is an introductory survey in either Russian culture or Russian literature, and the other three are electives, chosen in consultation with the director of undergraduate studies.

The course requirements are distributed as follows:

1. Six semesters of coursework in Russian language (from first- through third-year Russian) or the equivalent
2. One of the following surveys:
  - *RUSS V3223 Magical mystery tour: the legacy of Old Rus'*
  - *CLRS W4431 Theatricality and spectacle in the history of Russian culture*
3. Three additional courses in Russian culture, history, literature, art, film, music, or in linguistics; at least one of the selected courses should be taught in Russian

## For a Concentration in Slavic (Non-Russian) Language and Culture

This program is intended for students who aim to attain proficiency in a Slavic language other than Russian. Intensive language training is complemented by an

array of elective courses in Slavic cultures that allow students to achieve critical understanding of the communities that are shaped by the Slavic language of their choice.

Since this concentration emphasizes language acquisition, it is not appropriate for native speakers of the target language

The program of study consists of 10 courses, six of which meet language requirements. The four others are electives, chosen in consultation with the director of undergraduate studies.

The course requirements are distributed as follows:

1. Six semesters of coursework in one Slavic language (from Elementary through Advanced Czech, Polish, Serbian/Croatian/Bosnian, or Ukrainian) or the equivalent
2. Four additional courses in Slavic literature, culture or history, or in linguistics; at least two should be directly related to the target language of study

### **For a Concentration in Russian Literature and Culture**

The goal of this concentration is to make students conversant with a variety of Russian literary texts and cultural artifacts that facilitate a critical understanding of Russian culture. It is addressed to students who would like to combine language training with study of the Russian literary tradition.

The program of study consists of 10 courses, four of which meet language requirements. Of the remaining six courses, two are introductory surveys in Russian literature and culture, and the other four are electives, chosen in consultation with the director of undergraduate studies.

The course requirements are distributed as follows:

1. Four semesters of coursework in Russian language (first- and second-year Russian) or the equivalent
2. Two of the following surveys:
  - *RUSS V3220 Literature and empire: the rise of the novel in Russia (19th century)*
  - *RUSS V3221 Literature and revolution: tradition, innovation, and politics in Russian culture (20th century)*
  - *RUSS V3223 Magical mystery tour: the legacy of Old Rus'*
  - *CLRS W4431 Theatricality and spectacle in the history of Russian culture*
3. Four additional courses in Russian literature, culture, and history

### **For a Concentration in Slavic Studies**

This flexible concentration provides opportunities for interdisciplinary studies within the Slavic field. Students are encouraged to choose one target language (Czech, Polish, Russian, Serbian/Croatian/Bosnian, or Ukrainian), and one disciplinary focus in history, political science, economics, religion, anthropology, sociology, art, film, or music. In addition, this program allows students to focus on a particular Slavic (non-Russian) literature and culture, or to do comparative studies of several Slavic literatures, including Russian.

The program of study consists of 10 courses, four of which meet language requirements. Of the remaining six courses, one should be a history course targeting Russia, Eastern and Central Europe, or Eurasia, one should be a literature or culture course in Slavic, and the other four should be relevant electives, chosen in consultation with the director of undergraduate studies.

The course requirements are distributed as follows:

1. Four semesters of coursework in one Slavic language (elementary and intermediate Czech, Polish, Russian, Serbian/Croatian/Bosnian, or Ukrainian) or the equivalent
2. One relevant courses in Russian, East/Central European or Eurasian history
3. One relevant literature or culture course in Slavic, preferably related to the target language
4. Four additional courses with Slavic content in history, political science, economics, literature, religion, anthropology, sociology, art, film, or music.

Altogether students should complete three courses in a single discipline, including, if appropriate, the required history or literature/culture courses.

### **For a Concentration in Russian Literature**

This concentration is addressed to serious literature students who would like to pursue Russian literature but have no training in Russian. It allows students to explore the Russian literary tradition, while perfecting their critical skills and their techniques of close reading in a variety of challenging courses in translation.

The program of study consists of eight courses and no language requirements. It requires two introductory surveys of Russian literature. The remaining courses should focus primarily on Russian literature in translation but may include also courses in Russian culture, history, or in other Slavic literatures, as well as relevant literature courses from other departments, if approved by the director of undergraduate studies.

The course requirements are distributed as follows:

1. Two Russian literature surveys (in translation):
  - *RUSS V3220 Literature and empire: the rise of the novel in Russia (19th century)*
  - *RUSS V3221 Literature and revolution: tradition, innovation, and politics in Russian culture (20th century)*
2. Six additional courses, focused primarily on Russian literature, culture, and history, though courses in other Slavic literatures are also acceptable

Relevant literature courses from other departments may count toward the requirements for the concentration only if approved by the director of undergraduate studies.

# Sociology

**Director of Undergraduate Studies:** Prof. Karen Barkey, 601C Knox; 854-5622;  
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**Academic Department Administrator:** Anne Born, 501B Knox; 854-9890;  
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## Professors

Karen Barkey  
Peter Bearman  
Yinon Cohen  
Jonathan R. Cole  
Thomas A. DiPrete  
Gil Eyal  
Priscilla Ferguson  
Bruce Link (School of Public Health)  
Debra C. Minkoff (Barnard)  
Jonathan Rieder (Barnard)  
Saskia Sassen  
Michael E. Sobel  
Seymour Spilerman  
David Stark  
Diane Vaughan  
Sudhir Alladi Venkatesh  
Duncan J. Watts  
Amy Stuart Wells (Teachers College)  
Harrison White

## Lecturers

Isil Inaltong  
Christopher Charles Weiss

## Associate Professors

Courtney Bender (Religion)  
Dana Fisher  
Alondra Nelson  
Jo Phelan (School of Public Health)  
Emmanuelle Saada (French and Romance  
Philology)  
Josh Whitford  
Guobin Yang (Barnard)

## Assistant Professors

Elizabeth Bernstein (Barnard)  
Shamus Khan  
Peter Levin (Barnard)  
Yao Lu  
Carla Shedd  
Ion Bogdan Vasi (School of International and  
Public Affairs)

## On Leave

Profs. DiPrete, Ferguson, and Shedd for the  
academic year  
Profs. Khan and Lu for the fall semester  
Profs. Sassen and Spilerman for the spring  
semester

Sociology is the study of associational life. In examining patterns of association, sociologists explore the interactions of people, communities, and organizations. In this sense, sociology is not the study of people; it is the study of the /relationships/ among people. That study includes the associations between people and the products of human interaction such as organizations, technologies, economies, cities, culture, media, and religion. In the kinds of questions it asks, sociology is a deeply humanist discipline. But in answering these questions sociologists demand the analytic rigor of scientific investigation. In training students in our department, we encourage them to ask big questions. And we work to give them the tools to empirically provide answers. These tools might mean ethnographic observation, pouring through historical archives, looking at census data, analyzing social networks, or interviewing people in various walks of life. As a bridging discipline that seeks the scientific exploration of questions that matter to human communities such as inequality and social injustice, sociology addresses many of the same areas of life as our neighboring social science disciplines. Yet we often approach these areas quite differently. For example, problems of economic and political life are a central concern to sociologists. But rather than explore these as independent or particular features of society, we seek to embed them within the complex whole of the social world. Students will find sociology to be a broad, demanding department that provides its students with the conceptual and methodological tools to make sense of the opportunities and social problems of the global communities in which we live.

## Departmental Honors

In order to be considered for departmental honors majors must have a minimum GPA of 3.6 overall and 3.8 in courses in the Department of Sociology. In addition students must produce an exceptional honors thesis in the two-semester *Senior honors seminar* (SOCI W3995-W3996). In order to register for the *Senior honors seminar* students must have completed *SOCI W3010 Methods for social research* and have had their research project accepted by the faculty member teaching the *Senior honors seminar*. Submissions of research projects are due by May 1 preceding the seminar. Normally no more than 10 percent of graduating majors in the department receive departmental honors each year.

## DEGREE REQUIREMENTS

### For a Major in Sociology

At least 36 points are required as follows:

1. *SOCI W1000 The social world* (3 points)
2. *SOCI W3000 Social theory* (3 points)
3. *SOCI W3010 Methods for social research* (4 points)
4. 26 additional points in the Department of Sociology, to include three seminars (these may include the two semester *Senior honors seminar SOCI W3995-W3996*)

### For a Concentration in Sociology

At least 26 points are required as follows:

1. *SOCI W1000 The social world* (3 points)
2. *SOCI W3000 Social theory* (3 points)
3. *SOCI W3010 Methods for social research* (4 points)
4. 16 points in the Department of Sociology, five courses to include one seminar

# Statistics

## Statistics Major and Concentration Advising:

Daniel Rabinowitz; 1014 SSW; 851-2141; dan@stat.columbia.edu

## Economics-Statistics Major Advising:

Economics: Susan Elmes, 1006 IAB; (212) 854-2194; se5@columbia.edu  
Statistics: Daniel Rabinowitz, 1014 SSW; (212) 851-2141; dan@stat.columbia.edu

## Mathematics-Statistics Major Advising:

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Statistics: Daniel Rabinowitz, 1014 SSW; (212) 851-2141; dan@stat.columbia.edu

## Political Science—Statistics Major Advising:

Political Science: Robert Shapiro, 726 IAB; (212) 854-3944; rys2@columbia.edu

Statistics: Daniel Rabinowitz, 1014 SSW; (212) 851-2141; dan@stat.columbia.edu

## Department Administrator:

Dood Kalicharan, 1003 SSW; (212) 851-2130; dk@stat.columbia.edu

## Statistics Department Office:

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<http://www.stat.columbia.edu>

## Professors

Richard R. Davis

Victor H. de la Peña

Andrew Gelman

Shaw-Hwa Lo

David Madigan

Ioannis Karatzas (Mathematics)

Paul Meier (emeritus)

Phillip Protter

Michael Sobel (Sociology)

Daniel Rabinowitz

Zhiliang Ying

## Associate Professors

Martin Lindquist

Liam Paninski

Jan Vecer

Tian Zheng

## Assistant Professors

Regina Dolgoarshinnykh

Yang Feng

Souvik Ghosh

Gerardo Hernandez-de-Valle

## Assistant Professors (continued)

Jingchen Liu

Libor Pospisil

Bodhisattva Sen

Frank Wood

## Adjunct Professors

Demissie Alemayehu

Birol Emir

Mark Brown

Frank Caridi

Anthony Donoghue

Hammou Elbarmi

Irene Hueter

Noor Rajah

Michael Shnaidman

Gary Venter

Keith Weintraub

Abraham Weishaus

Edward Whalen

## Lecturer in Discipline

Michael Hogan

The department offers introductory survey courses, a concentration or minor in applied statistical methods, a major in statistics, and joint majors with mathematics, with economics, and with political science.

The three survey courses serve as an introduction for consumers of statistics or for students considering going on to the concentration or the major. They vary in their mathematical sophistication: *STAT W1001* is designed for students who have taken a pre-calculus course - and the emphasis is on general principles; *STAT W1111* is designed for students with some mathematical maturity but who would prefer not to exercise their calculus - and the emphasis is on practical issues; *STAT W1211* is designed for students who have taken some calculus - and the emphasis is on theory.

Four courses, *STAT W2024*, *STAT W2025*, *STAT W2026*, and *STAT W3026*, (together with any one of the introductory survey courses and one semester of research experience) form a concentration in applied statistics appropriate for students preparing for a career or future study where skills in data analysis are valued.

The statistics major augments the practical training of the concentration with a comprehensive introduction to the mathematical and theoretical underpinnings of probability theory and statistical inference. Students interested in careers as statisticians or careers in finance or in actuarial science choose to major in statistics.

## Advanced Placement

The department grants 3 credits for a score of 5 on the AP Statistics exam. Students who are required to take an introductory statistics for their major should check with their major adviser to determine if this credit provides exemption from their requirement. Please note that the Department of Economics does not allow this credit to provide exemption from the STAT W1211 major requirement.

## Departmental Honors

To be considered for departmental honors in statistics, students must have a GPA of 3.65 or higher in the major, and have completed an undergraduate research project. Students may complete an undergraduate research project through the department's summer internship program in applied statistics, or by enrolling in *STAT W3997*. For departmental honors in a joint major, students must also meet the standard in the other department.

## Summer Internship in Applied Statistics

Columbia College, Barnard College, SEAS, and General Studies students may apply to the department's summer internship program. The internship provides summer housing and a stipend. Students work with Statistics Department faculty mentors on applications of statistics. Applicants should send statement of interest and a transcript to Ms. Dood Kalicharan in the Statistics Department office by the first of April. Please see the Department's Undergraduate Research Page.

## DEGREE REQUIREMENTS

### For a Major in Statistics

The major should be planned with the director of undergraduate studies as early as possible. Courses in which the grade of D has been received do not count towards the major. The requirements for the major are as follows:

1. One of *STAT W1001*, *W1111*, or *W1211*.
2. *MATH V1101*.
3. *STAT W3103*.
4. *STAT W3105*, *W3107*, and *W3315*.
5. An approved set of five electives chosen from Statistics Department offerings. Examples of approved elective sequences include (but are not limited to) the following.
  1. For a student preparing for a career in actuarial science
    - *STAT W4840*, *W4606*, *W4440* (in place of *W3315*), *W4553*, *ACTU K4821*, *K4830* (consider also *W4823*)
  2. For a student preparing for a career in finance
    - *STAT W4290*, *W4437*, *W4635*, *G6501*, *G6505*
  3. For a student preparing for applications in the health sciences, five of
    - *STAT W4240*, *W4325*, *W4330*, *W4335*, *W4543*, *W4413*
  4. For a student preparing for quantitative research in the social sciences, five of
    - *STAT W2025*, *W3026*, *W4330*, *W4335*, *W4413*, *W4325*
  5. For a student preparing for quantitative research in the biological sciences, five of
    - *STAT W2024*, *W2025*, *W2026*, *W3026*, *W4606*, *W4437*, *W4330*, *W4325*
  6. For a student preparing for graduate study in statistics
    - *STAT W4606* or *W6501*, and four of *W4413*, *W4220*, *W4335*, *W4419*, *W4543*, *W4325*, *W4330*, *W4437*
  7. For a student seeking training in applied statistics and data mining
    - *STAT W2024*, *W2025*, *W2026*, *W4240*, and one of *W4413*, *W4543*, *W4325*, *W4330*, *W4335*, *W4437*

Students may replace *STAT W1001*, *W1111*, or *W1211* with *PSYC W1610*. Students may replace *STAT W3103* with *MATH V1102*, *MATH V2010*, and one of *COMS*



*W1003, W1004, W1005, or W1007. Students may replace STAT W3105 with W4105, STAT W3107 with W4107, and STAT W3315 with W4315 or W4440, and students may replace STAT W3105 and W3107 with the combined course STAT W4109.*

Students preparing for a career in actuarial science may replace *STAT W4315* with *W4440*, and should discuss with the Director of Undergraduate studies how to include in their study plan additional courses approved for Validation by Education Experience by the Society of Actuaries. Students may replace up to two statistics electives with approved advance mathematics electives; students preparing for graduate study in Statistics should consider *MATH W4061* and *W4062*.

### For a Concentration in Statistics

Courses in which the grade of D has been received do not count towards the major. The requirements for the concentration are as follows.

1. One of *STAT W1001, W1111, or W1211*.
2. *STAT W2024, W2025, W2026, and W3026*.
3. *STAT W3997*

Students may replace courses required for the concentration by approved Statistics Department offerings numbered above 4200. *MATH V1101* and one of *COMS W1003, W1004, W1005, or W1007* are recommended.

### For a Major in Economics-Statistics

Please read *Regulations for all Economics Majors, Concentrators, and Interdepartmental Majors* above.

The major in economics and statistics provides students with a grounding in economic theory comparable to that provided by the general economics major, yet additionally exposes students to a significantly more rigorous and extensive statistics training than is provided by the general major. This program is recommended for students with strong quantitative skills and for those students who are contemplating graduate studies in economics.

Two advisers are assigned for the interdepartmental major, one in the Department of Economics and one in the Department of Statistics. Please note that the economics adviser can only advise on the economics requirements and the statistics adviser can only advise on the statistics requirements.

The economics-statistics major requires a total of 53 points: 23 in economics, 15 points in statistics, 12 points in mathematics, and 3 points in computer science as follows:

1. Economics core courses (13 points)
2. Economics electives (6 points)
  - Two electives at the 3000 level or above, of which no more than **one** may be a Barnard course
3. Mathematics (12 points)
  - One of the following sequences:
    - MATH V1101, V1102, V1201 and V2010 Calculus I, II, III, and Linear algebra*
    - MATH V1207 and V1208 Honors math A and B*
4. Statistics (15 points)
  - *STAT W1211 Introduction to statistics (with calculus)*
  - *STAT W3105 Introduction to statistics: probability models*
  - *STAT W3107 Statistical inference*
  - *STAT W4315 Linear regression models*
  - One elective (excluding *STAT W1001, W1111, W2110 and SIEO W4150*)
5. Computer science (3 points)
  - One of the following:
    - COMS W1003 Introduction to computer science and programming in C*
    - COMS W1004 (preferred) Introduction to computer science and programming in JAVA*

- COMS W1005 *Introduction to computer science and programming in MATLAB*
  - COMS W1007 *Object-oriented programming and design in JAVA*
6. ECON W4918 *Seminar in econometrics* (4 points)

### For a Major in Mathematics-Statistics

The program is designed to prepare the student for: (1) a career in industries such as finance and insurance, that require a high level of mathematical sophistication and a substantial knowledge of probability and statistics and (2) graduate study in quantitative disciplines. Students choose electives in finance, actuarial science, operations research or other quantitative fields to complement requirements in mathematics, statistics, and computer science.

1. Mathematics:
  - One of the following sequences:
    - MATH V1101-V1102, MATH V1201, MATH V2010, and MATH V2500
    - MATH V1207-V1208 and MATH V2500 (with approval from the adviser)
2. Statistics:
  - One of STAT W1211, STAT W1001, or STAT W1111; and
  - Each of STAT W3105, STAT W3107, and STAT W3315; and
  - One of STAT W4606, STAT W4840, STAT W4635, STAT G6501 or STAT G6505
3. Computer Science:
  - One of COMS W1003, COMS W1004, COMS W1005, or COMS W1007, or an advanced Computer Science offering in programming.
4. Electives:
  - An approved selection of three advanced courses in mathematics, statistics, applied mathematics, industrial engineering and operations research, computer science, or approved mathematical methods courses in a quantitative discipline. At least one elective must be a Mathematics Department course numbered 3000 or above.

Students interested in modeling applications are recommended to take MATH V3027 and MATH W3028; those interested in finance are recommended to take MATH W4071, STAT W4290, and STAT W4437; those interested in graduate study in mathematics or in statistics are recommended to take MATH W4061 and MATH W4062. Students interested in actuarial sciences should discuss with the Statistics Department adviser how to include courses approved for the Actuarial Societies' Validation by Education Experience requirements, and how to prepare for the Societies' exams. Students must obtain approval for their elective selection from both the mathematics and statistics advisers.

Students may replace STAT W3105 with W4105, STAT W3107 with W4107, and STAT W3315 with W4315 or W4440, and students may replace STAT W3105 and W3107 with the combined course STAT W4109.

### For a Major in Political Science-Statistics

The interdisciplinary major of political science–statistics is designed for students who desire an understanding of political science to pursue advanced study in this field and who also wish to have at their command a broad range of sophisticated statistical tools to analyze data related to social science and public policy research.

Students should be aware of the rules regarding the use of the Pass/D/Fail option. Courses in which a grade of D has been received do not count toward the major requirements.

Political science–statistics students are eligible for all prizes reserved for political science majors.

The major requires a minimum of 48 points, distributed as follows:

1. Mathematics (9 points):
  - *MATH V1101 Calculus I*
  - *MATH V1102 Calculus II*
  - *MATH V2010 Linear algebra*
2. Computer Science (3 points):
  - *COMS W1003, W1004* (preferred), *W1005* or *W1007*
3. Statistics (12 points):
  - *STAT W1001, W1111* or *W1211*
  - *STAT W3000* or *W4150*
  - *STAT W4107*
  - *STAT W4315*
4. Political Science (21 points):
  - Introductory courses (one of which must be taken):
    - American politics - POLS W1201*
    - Comparative politics - POLS V1501*
    - International relations - POLS V1601*
  - 6 points in the same subfield as the intro course
  - A 4-point political science seminar in that subfield
5. *POLS W4910*
6. *POLS W4911*
7. An elective in a quantitatively oriented course, approved by an undergraduate adviser, in statistics or a social science (e.g., political science, anthropology, sociology)

# Sustainable Development

## Director of Undergraduate Studies:

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Jason Smerdon, (845) 365-8493; jsmerdon@ldeo.columbia.edu

**Program Administrator:** Natalie Unwin-Kuroneri, Hogan Hall; 854-8536;  
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**Departmental Office:** The Earth Institute, Office of Academic and Research Programs, Hogan, B-Level

## Committee for Sustainable Development

Steven Cohen (The Earth Institute and School of International and Public Affairs)

Peter Coleman (Psychology and Teachers College)

Patricia Culligan (Civil Engineering and Engineering Mechanics)

Alberto Medina (Latin American and Iberian Cultures)

Ruth DeFries (Ecology, Evolution, and Environmental Biology)(co-chair)

Peter deMenocal (Earth and Environmental Sciences)

Joseph Graziano (Mailman School of Public Health)

Kevin Griffin (Earth and Environmental Sciences) (co-chair)

Upmanu Lall (Earth and Environmental Engineering)

Edward Lloyd - (Law School)

Michele Moody-Adams (Columbia College)

Shahid Naeem (Ecology, Evolution, and Environmental Biology)

Stephanie Pfirmann (Environmental Science, Barnard)

Robert Pollack (Biological Sciences)

Victoria Rosner (General Studies)

Elliott Sclar (Graduate School of Architecture, Planning, and Preservation)

Wolfram Schlenker (Economics)

Sam Sia (Biomedical Engineering)

Sara Tjossem (School of International and Public Affairs)

Kathryn Yatrakis (Columbia College)

Sustainable development is founded on the premise that human well-being should advance without irreparable harm to ecosystems and the vital services they provide, without depleting essential resources, and without posing risks to future generations. Sustainability means the management of the world's resources in a manner consistent with the continued healthy functioning of the world's ecosystems, oceans, atmosphere, and climate. Development is the challenge of spreading social, political, and economic well-being to the entire global community and especially to the poorest of the poor, who continue to suffer massive material deprivation despite the vast improvements in average material conditions on the planet.

The Earth Institute, in collaboration with Columbia College, the School of General Studies, the School of International and Public Affairs, and the Departments of Earth and Environmental Science; Ecology, Evolution, and Environmental Biology; and Earth and Environmental Engineering, have collaborated to bring students both a major as well as a special concentration in sustainable development.

These programs are designed to: engage students in this emergent interdisciplinary discussion; provide them with a knowledge of the theory and practice of sustainable development; stimulate a critical examination of the historical and conceptual antecedents; have them reflect on how past practices have shaped the present; provide experience in the complex challenges of sustainable development through direct engagement; and help them imagine alternative futures for our rapidly changing world.

With help from the Earth Institute faculty, courses for the program were specifically created to address the very real and complex issues of development as they relate to the interactions of the natural and social systems.

The major focuses heavily on the sciences and is meant to provide students with a working knowledge of issues on a range of interacting subject areas. After declaring the major, students are assigned an academic adviser from within the Earth Institute, with expertise in an area of sustainable development, who are able to advise them on class selection and career development. Students benefit from a support system of Earth Institute faculty, advisers, and program managers, and have access to the multitude of resources for internships, study abroad programs, and career development.

The special concentration is intentionally more flexible, but its structure allows students to benefit from the cross-disciplinary courses and to build the expertise to allow them to address the fundamental issue of how to move towards a trajectory of sustainability.

The sustainable development program is structured to ensure that students graduate with the skills and knowledge to enable them to advance professionally in the public, private, governmental and not-for-profit sectors, and to pursue advanced degrees.

Those interested in sustainable development are encouraged to participate in the lectures, conferences, and other programs sponsored by the Earth Institute. Those interested in doing further work in this field should consult with the program administrator or with members of the interschool committee.

## DEGREE REQUIREMENTS

### For a Major in Sustainable Development

Students should work with the program adviser to decide on course selection and sequencing. A minimum of 15 courses and a practicum are required as follows:

1. **Sustainable Development Foundation (3courses):**
  - *SDEV W1900 Introduction to sustainable development seminar*
  - *SDEV W2300 Challenges of sustainable development*
  - *EESC W2330 Science for sustainable development*
2. **Basic Disciplinary Foundation (5courses):**
  - One of the following science sequences:
    - EEEB W2001-W2002 Environmental biology I and II*
    - CHEM C1403-C1404 General chemistry*
    - PHYS V1201-V1202 General physics*
    - EESC V2100-V2300 Earth science*
    - EAE E1100-E2002 Engineering science*
  - Two of the following social science courses:
    - ECON W1105 Principles of economics*
    - SDEV W3400 Demography of human populations*
    - POLS V1501 Introduction to comparative politics or V1601 International politics*
    - SOCI W1000 The social world*
    - ANTH V1002 The interpretation of culture*
  - One of the following **Quantitative Foundations** courses:
    - STAT W1211 Introduction to statistics (with calculus)*
    - STAT W3105 Introduction to probability models*
    - STAT W3107 Introduction to statistical inference*
    - STAT W4105 Introduction to probability*
    - STAT W4107 Statistical inference*
    - STAT W4315 Linear regression Models*
    - STAT W4606 Elementary stochastic processes*
    - MATH V2010 Linear algebra*
3. **Analysis and Solutions to Complex Problems (2 courses):**
  - *SDEV W3330 Ecological and social systems for sustainable development*
  - *EAIA W4200 Alternative energy resources*
  - *ECLA W4100 Management and development of water resources*
  - *PUBH W3100 Fundamentals of global health*
  - *SDEV W3200 Global food systems*
  - *SDEV W3360 Disasters and development*
  - *SDEV W3410 Urbanization and sustainability*
  - *The summer ecosystems experience for undergraduates (SEE-U)*
4. **Skills/Actions (two courses):**
  - *SDEV W3390 GIS for sustainable development*
  - *SDEV W3355 Climate change and law*
  - *SCNC W3010 Science, technology and society*
  - *SDEV W3450 Spatial analysis and modeling for sustainable development*
  - *EESC W4050 Global assessment remote sensing*

- *SDEV W3320 Economic and financial methods for sustainable development*
  - *SUMA K4100 Sustainability management*
5. **Electives (a practicum and two courses):**
    - One of the following practicums:
      - INAF U4420 Oil rights and development*
      - SUMA K4734 Earth institute practicum*
    - Two of the following:
      - Additional courses from analysis and solutions to complex problems
      - Additional courses from skills/actions
      - Senior thesis seminar (EESC W3901 and EESC BC3800)
      - Upper division courses from the list approved by program adviser
  6. **Capstone Workshop (one course)**
    - *SDEV W3280 Workshop in sustainable development*

### For a Special Concentration in Sustainable Development

In addition to the requirements of the special concentration, students must complete a major or a full concentration.

Students should work with the program adviser to decide on course selection and sequencing. The requirements for the special concentration have recently changed. Students declared in the special concentration prior to the change may choose to follow either the new or the old requirements. A minimum of nine courses and a practicum are required as follows:

1. **Sustainable Development Foundation (three courses):**
  - *SDEV W1900 Introduction to sustainable development seminar*
  - *SDEV W2300 Challenges of sustainable development*
  - *EESC W2330 Science for sustainable development*
2. **Natural Science Systems (1 course):**
  - One of the following natural science courses:
    - PHYS V1201 General physics I*
    - CHEM C1403 Chemistry I*
    - EAEE E1100 A better planet by design*
    - EEEE W1001 Biodiversity*
    - EEEE W2002 Environmental biology II*
    - EESC V1201 Environment risks and disasters*
    - EESC V2100 Earth's environment systems: climate*
    - EESC V1011/EESC V1411 Earth: origin, evolution, processes, future*
    - EESC V1003 Climate and society: case studies*
    - SCNC W1800 Energy and energy conservation*
3. **Human Science Systems (1 course):**
  - One of the following human science courses:
    - ECON W1105 Principles of economics*
    - SDEV W3400 Demography of human populations*
    - POLS V1501 Introduction to comparative politics*
    - POLS V1601 International politics*
    - SOCI W1000 The social world*
    - ANTH V1002 The interpretation of culture*
4. **Analysis and Solutions to Complex Problems (2 courses):**
  - *SDEV W3330 Ecological and social systems for sustainable development*
  - *EAlA W4200 Alternative energy resources*
  - *ECIA W4100 Management and development of water resources*
  - *PUBH W3100 Fundamentals of global health*
  - *SDEV W3200 Global food systems*
  - *SDEV W3360 Disasters and development*
  - *SDEV W3410 Urbanization and sustainable development*
  - *SUMA K4100 Sustainability management*
  - *The summer ecosystem experiences for undergraduates (SEE-U)*
5. **Skills/Actions (1 course):**
  - *SDEV W3390 GIS for sustainable development*
  - *SDEV W3355 Climate change and law*
  - *SCNC W3010 Science, technology and society*

- *SDEV W3450 Spatial analysis and modeling for sustainable development*
  - *EESC W4050 Global assessment remote sensing*
  - *SDEV W3320 Economic and financial methods for sustainable development*
6. **Practicum (1 course):**
- One of the following practicums:
    - SUMA K4734 Earth institute practicum*
    - INAF U4420 Oil rights and development*
7. **Capstone Workshop (one course):**
- *SDEV W3280 Workshop in sustainable development*

The summer ecosystem experiences for undergraduates (SEE-U): Please note that students in the major or the special concentration who take SEE-U as a 6 credit course can use 3-credits towards the Complex Problems requirement and 3-credits towards the Skills/Action requirement. If SEE-U is taken for 3-credits it will count as one Complex Problems class

# Urban Studies

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The Urban Studies Program enables students to explore and understand the urban experience in all of its richness and complexity. It recognizes the city as an amalgam of diverse peoples and their social, political, economic, and cultural interactions within a distinctive built environment. Students study the evolution and variety of urban forms and governance structures, which create opportunities for, as well as constrain, the exercise of human agency, individual and collective. They explore the place of the city in different historical and comparative contexts, as well as in the human imagination.

Majors build an intellectual foundation that combines interdisciplinary coursework and a concentration of study within a single field. Through the two-semester junior colloquium, students study urban history and contemporary issues, and at the same time hone their interdisciplinary, analytical and research skills. This shared experience prepares them for their independent research project in their senior year. We encourage our majors to use New York City as a laboratory, and many courses draw on the vast resources of the city and include an off-campus experience.



## Student Learning Objectives

Having successfully completed the major in urban studies, the student will be able to:

1. Apply concepts or methods from more than one social science or adjacent discipline to analyze an urban issue or problem.
2. Describe the distinctive social, cultural, and spatial features of cities and illustrate their impacts on the urban experience.
3. Apply basic skills of empirical reasoning to an urban problem.
4. Explain how the idea of the city varies in different historical and comparative contexts.
5. Demonstrate familiarity with a particular disciplinary approach to the city as an object of study.
6. Demonstrate an understanding of the history and variety of urban forms and governance structures.
7. Articulate a well-defined research question, conduct independent research using primary sources and a variety of theoretical and methodological approaches, and write a substantive research paper.
8. Communicate ideas effectively in written or oral form.
9. Organize and present group research projects.

## DEGREE REQUIREMENTS

### For a Major in Urban Studies

The Urban Studies Program is an interdisciplinary program drawing on faculty and courses from departments throughout the University. Its aim is to offer students a broad background in urban studies as part of the regular liberal arts curriculum. An undergraduate may major in urban studies in conjunction with a specialization in a related field (for example: anthropology, architecture, economics, environmental science, history, political science, or sociology). Individual programs of study depend on the student's particular interests and on the discipline he or she chooses to include as the specialization within the major.

1. Five courses from one of the following fields:
  - Anthropology
  - Architecture
  - Economics
  - Environmental science
  - History
  - Political science
  - Sociology
2. *URBS V3545* and *URBS V3546*, typically taken during the junior year
3. One methodology course, typically *URBS V3200*
4. In the senior year either *URBS V3992-V3993*, *URBS V3994-V3995*, *URBS V3996-V3997*, or a two-semester senior thesis in the department of specialization
5. One course on urban subject matter from at least three different social science disciplines (at least two of these courses should be completed before the junior year)
6. One course on urban subject matter from a discipline that is not in the social sciences

A complete list of appropriate courses on urban subject matter in social science and other departments is available on the program website, or in the Office of the Dean, 208 Hamilton, and also in the Program Office, 236 Milbank.

# Visual Arts

**Director of Undergraduate Studies:** Prof. Sanford Biggers; sb3167@columbia.edu

**Director of Academic Administration:** Emma Balazs; eb2626@columbia.edu

**Manager of Visual Arts Program:** Andrew Hass; awh2106@columbia.edu

**Departmental Office:** 310 Dodge; 854-4065

## Professors

Gregory Amenoff (chair)  
Jon Kessler  
Thomas Roma  
Sarah Sze  
Rirkrit Tiravanija  
Tomas Vu-Daniel  
Kara Walker

## Associate Professors

Shelly Silver

## Assistant Professors

Sanford Biggers

The Visual Arts Program in the School of the Arts offers studio art classes as a component of a liberal arts education and as a means to an art major, concentration and joint major with the Art History and Archeology Department.

## Registration

Prior to registering, students must attend the first meeting of the class to gain approval from the professor. Upon approval, students may then register on-line. Priority is given to declared visual arts majors.

Although it is not encouraged, students may petition to waive prerequisites to gain admittance into intermediate-level courses by submitting a portfolio to the visual arts offices. Two members of the faculty review submissions and make a determination of standing. This does not change the number of points needed to complete the major or concentration, nor does it guarantee course placement.

## Declaring a Major in Visual Arts

The visual arts undergrad program requires a departmental signature when declaring your major. Students should obtain the appropriate major declaration forms from their school adviser, and then make an appointment with the director of undergraduate studies. When declaring the major students should complete the Visual Arts Major Worksheet.pdf before meeting with the director of undergraduate studies.

## DEGREE REQUIREMENTS

### REGULATIONS FOR ALL VISUAL ARTS MAJORS, CONCENTRATORS, AND JOINT MAJORS

No more than 12 points from any other degree-granting institution may be counted as credit toward the major and must be approved by the director of undergraduate studies.

### For a Major in Visual Arts

A total of 47 points are required as follows:

### COURSES WITHIN THE VISUAL ARTS PROGRAM

Total of 35 points:

- *VIAR R1001 Basic drawing* (3 points)
- *VIAR R3330 Sculpture I* (3 points)
- Six additional *VIAR R3000*-level (or above) courses (18 points)
- The following course must be taken during the junior year:  
—*VIAR R4601 Eye and idea* (3 points)
- Senior project consists of the following four courses:

- VIAR R3901-R3902 Senior thesis, I and II* (4 points)
- VIAR R3921-R3922 Visiting critic, I and II* (4 points)

## **COURSES OUTSIDE THE VISUAL ARTS PROGRAM**

Total of 12 points:

- One of the following:
  - AHIS BC1001 Introduction to the history of art I* (4 points)
  - AHIS BC1002 Introduction to the history of art II* (4 points)
  - AHIS W3650 Twentieth-century art* (3 points)
- Three related courses (8-9 points)

When declaring the major students should complete the Visual Arts Major Worksheet.pdf before meeting with the director of undergraduate studies.

## **SENIOR PROJECT**

Before entering into senior project it is strongly advised that majors have completed 18 points of required Visual Arts Program courses. Senior project consists of four 2-point courses taken over two semesters; *VIAR R3901-R3902 Senior thesis, I and II* (4 points) and *VIAR R3921-R3922 Visiting critic, I and II* (4 points) (*Senior thesis I* and *Visiting critic I* running concurrently and *Senior thesis II* and *Visiting critic II* running concurrently). Visual arts majors must sign up for a portfolio review to enter into senior project. Portfolio reviews are scheduled in April preceding the semester for which students seek entry. When signing up please review the Procedures for Gaining Admittance into Senior Project.pdf. Portfolios representing the work students have completed within the visual arts program are evaluated by the director of undergraduate studies and a faculty committee. Following each semester of senior project, a faculty committee evaluates the work and performance completed thus far.

## **For a Major in Art History and Visual Arts**

A total of 46 points are required as follows:

### **COURSES WITHIN THE VISUAL ARTS PROGRAM**

Total of 21 points:

- *VIAR R1001 Basic drawing* (3 points)
- *VIAR R3330 Sculpture I* (3 points)
- Five additional *VIAR R3000-level* (or above) courses (15 points)

### **COURSES IN THE ART HISTORY AND ARCHAEOLOGY DEPARTMENT**

Total of 25 points:

- *AHIS W3895 Majors' colloquium* (4 points)
- Seven additional courses (21 points)

When declaring the joint major students should complete the Visual Arts/Art History Dual Major Worksheet.pdf before meeting with the director of undergraduate studies.

## **For a Concentration in Visual Arts**

A total of 30 points are required as follows:

### **COURSES WITHIN THE VISUAL ARTS PROGRAM**

Total of 18 points:

- *VIAR R1001 Basic drawing* (3 points)
- *VIAR R3330 Sculpture I* (3 points)
- Four additional *VIAR R3000-* or above courses (12 points)

### **COURSES OUTSIDE THE VISUAL ARTS PROGRAM**

Total of 12 points:

- One of the following:

- AHIS BC1001 Introduction to the history of art I* (4 points)
- AHIS BC1002 Introduction to the history of art II* (4 points)
- AHIS W3650 Twentieth-century art* (3 points)
- Three related courses (8-9 points)

When declaring the concentration students should complete the Visual Arts Concentration Worksheet.pdf before meeting with the director of undergraduate studies.

# Women's and Gender Studies

**Undergraduate Director:** Profs. Eleanor Johnson (Fall) and Elizabeth Povinelli (Spring), 763 Schermerhorn Extension; 854-3277; [ebj2117@columbia.edu](mailto:ebj2117@columbia.edu); [ep2122@columbia.edu](mailto:ep2122@columbia.edu)  
**Program Office:** 763 Schermerhorn Extension; 854-3277; (fax) 854-7466

Located with the Institute for Research on Women and Gender, and taught in cooperation with Barnard College's Women's Studies Department, the program in women's and gender studies provides students with a culturally and historically situated, theoretically diverse understanding of feminist scholarship and its contributions to the disciplines. The program is intended to introduce students to the long arc of feminist discourse about the cultural and historical representation of nature, power, and the social construction of difference. It encourages students to engage in the debates regarding the ethical and political issues of equality and justice that emerge in such discussion, and it links the questions of gender and sexuality to those of racial ethnic, and other kinds of hierarchical difference.

Through sequentially organized courses in women's and gender studies, as well as required discipline-based courses in the humanities and social sciences, the major provides a thoroughly interdisciplinary framework, methodological training, and substantive guidance in specialized areas of research. Small classes and mentored thesis-writing give students an education that is both comprehensive and tailored to individual needs. The major culminates in a two-semester thesis-writing class, in which students undertake original research and produce advanced scholarship.

Graduates leave the program well prepared for future scholarly work in women's and gender studies, but the major also prepares students for careers and future training in law, public policy, social work, community organizing, journalism, and all those professions in which there is a need for critical and creative interdisciplinary thought.

## DEGREE REQUIREMENTS

### For a Major in Women's and Gender Studies

Students should plan their course of study with the undergraduate director as early in their academic careers as possible.

The requirements for the major are:

1. *WMST V1001* or *WMST V3111*
2. *WMST V3112*
3. *WMST V3311* or *WMST V3813*
4. *WMST V3520-V3521 Senior seminar* (with the permission of the instructor, students may fulfill the seminar requirement by taking *WMST V3521-V3522 Senior seminar* at Barnard.)
5. A minimum of five approved courses that focus on women, gender, sexuality and/or feminist perspectives. In order to provide the breadth necessary for an interdisciplinary major, students must take at least one women's and gender studies course each from the humanities and the social sciences. At least one of these courses must focus on global/transnational or comparative issues or non-Western cultures and at least one on race and/or sexuality. These courses may be offered by women's and gender studies, or another program or department. Students should check with the undergraduate director for a list of approved courses.
6. To ensure grounding in a particular methodology, students must take at least four additional courses in the social sciences, humanities, or sciences, which need not focus on gender; they are strongly encouraged to concentrate these courses within a single discipline.

### For a Concentration in Women's and Gender Studies

The same requirements as for the major, with the exception of the *Senior seminar* sequence.

**Special Concentration for Those Majoring in Another Department**

*WMST V3112* and either *WMST V3813* or *WMST V3311*; plus five additional approved courses on gender.

For a complete list of courses applicable to the women's and gender studies major, check with the Women's and Gender Studies Office.

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**Account Balance, Loan Status:** (212) 854-8300  
<http://www.columbia.edu/cu/sfs/>

## **Part-Time Employment:**

Center for Career Education  
East Campus  
Mail Code 5732  
70-72 Morningside Drive  
New York, NY 10027  
telephone (212) 854-2391  
<http://www.columbia.edu/cu/ccs/>

## **Psychological Counseling:**

Counseling and Psychological Services  
8th Floor Alfred Lerner Hall  
Mail Code 3601  
2920 Broadway  
New York, NY 10027  
telephone (212) 854-2878  
<http://www.health.columbia.edu/>

## **Registration:**

Office of the Registrar  
205 Kent Hall  
Mail Code 9202  
1140 Amsterdam Avenue  
New York, NY 10027  
telephone (212) 854-4330  
**Register for classes:** (212) 854-8282  
**Check Holds:** (212) 854-6464  
**Find Registration Appointment:** (212) 854-4488  
<http://www.columbia.edu/cu/registrar/>

## **Transcripts, Grades, and Certifications:**

Office of the Registrar  
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1140 Amsterdam Avenue  
New York, NY 10027  
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**Check Grades:** (212) 854-7373  
<http://www.columbia.edu/cu/students/>

## **Student Development and Activities:**

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<http://www.college.columbia.edu/students/sda.html/>



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