

# COLUMBIA COLLEGE

COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK

BULLETIN  
2014-2015

1754

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# COLUMBIA COLLEGE BULLETIN

2014-2015 | Columbia College | Founded 1754

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# ACADEMIC CALENDAR

The 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. Updated calendar information is available on the Registrar's website (<http://registrar.columbia.edu/category/academic-year/2014-2015>).

## FALL TERM 2014

August	1	Friday. Last day to submit vaccination documentation for measles, mumps, and rubella; and to certify meningitis decision on-line (for new Fall 2014 students only).
	4–8	Monday–Friday. On-line registration for Fall 2014 via Student Services Online (SSOL): continuing students only.
	19–21	Tuesday–Thursday. On-line registration for Fall 2014 via Student Services Online (SSOL): continuing students only.
	25	Monday. Orientation begins for entering Fall 2014 students.
	29	Friday. On-line registration for Fall 2014 via Student Services Online (SSOL): first-year students.
	30	Saturday. On-line registration for Fall 2014 via Student Services Online (SSOL): continuing students only.
September	1	<b>Monday. Labor Day. University holiday.</b>
	2	<b>Tuesday. Classes begin for the 261st academic year.</b> 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.
	2–12	Weekdays only. Change-of-Program period by appointment: all students.
	5, 8	Friday and Monday. Deferred examination dates.
	11	Thursday. Last day to join a class off the Wait List via Student Services Online (SSOL). The Wait List tool will close at 9:30 p.m.
	12	Friday. End of Change-of-Program period. Last day to add courses. Last day to uncover grade for Spring or Summer 2014 course taken Pass/D/Fail. Last day to drop a Core Curriculum course. Must be registered for a minimum of 12 points.
	15– October 7	Weekdays only. Extended Add/Drop Period via Student Services Online (SSOL).
	19	Friday. Last day to confirm, upgrade, or request a waiver from the Columbia Student Health Insurance Plan.
October	7	Tuesday. Last day for students to drop individual courses.
	15	Wednesday. Award of October degrees.
	16	Thursday. Midterm Date.
November	3	Monday. Last day to apply or reapply for the B.A. degree to be awarded in February. Applications received after this date are automatically applied to the next conferral date.
	3	<b>Monday. Academic Holiday.</b>
	4	<b>Tuesday. Election Day. University holiday.</b>
	13	Thursday. Last day for students to register for R credit, to change a regular course to a Pass/D/Fail course or a Pass/D/Fail course to a regular course, and/or to withdraw from an individual course and receive a notation of “W” on the transcript in place of a letter grade.
	17–21	Monday–Friday. Registration by on-line appointment for Spring 2015 via Student Services Online (SSOL): continuing students only.
	27–30	<b>Thursday–Sunday. Thanksgiving holidays.</b>
December	1	Monday. Last day to apply or reapply for the B.A. degree to be awarded in May. Applications received after this date are automatically applied to the next conferral date.
	8	Monday. Last day of classes.
	9–11	Tuesday–Thursday. Study days.
	12	Friday. Last day to submit vaccination documentation for measles, mumps, and rubella; and to certify meningitis decision on-line (for new Spring 2015 students only).
	12–19	Friday–Friday. Final examinations.
	19	Friday. Fall term ends.

22 **Monday, through January 19, 2015, Monday. Winter holidays.**

## SPRING TERM 2015

January	1	Thursday. Last day for applicants to the Class of 2019 to apply for admission.
	6–16	Weekdays only. Registration by on-line appointment for Spring 2015 via Student Services Online (SSOL): continuing and transfer students only.
	19	<b>Monday. Martin Luther King Jr. Day. University holiday.</b>
	20	<b>Tuesday. Classes begin.</b>
	20–30	Weekdays only. Change-of-Program period by on-line appointment via Student Services Online (SSOL).
	23, 26	Friday and Monday. Deferred examination dates.
	29	Thursday. Last day to join a class off the Wait List via Student Services Online (SSOL). The Wait List tool will close at 9:30 p.m.
	30	Friday. End of Change-of-Program period. Last day to add courses. Last day to uncover grade for Fall 2014 course taken Pass/D/Fail. Last day to drop a Core Curriculum course. Must be registered for a minimum of 12 points.
	30	Friday. Last day for new Spring 2015 students to confirm, upgrade, or request a waiver from the Columbia Student Health Insurance Plan.
February	2–24	Weekdays only. Extended Add/Drop period via Student Services Online (SSOL).
	11	Wednesday. Award of February degrees.
	24	Tuesday. Last day for students to drop individual courses.
March	9	Monday. Midterm date.
	16–20	<b>Monday–Friday. Spring recess.</b>
	26	Thursday. Last day for students to register for R credit, to change a regular course to a Pass/D/Fail course or a Pass/D/Fail course to a regular course and/or to withdraw from an individual course and receive a notation of “W” on the transcript in place of a letter grade.
April	13–17	Monday–Friday. Registration by on-line appointment for Fall 2015 via Student Services Online (SSOL): continuing students only.

May 4 Monday. Last day of classes. Deadline for continuing students to apply for financial aid for 2015-2016.

5–7 Tuesday–Thursday. Study days.

8–15 Friday–Friday. Final examinations.

15 Friday. Spring term ends.

## COMMENCEMENT

May	17	Sunday. Baccalaureate Service.
	19	Tuesday. Columbia College Class Day. Academic Awards and Prizes Ceremony. Phi Beta Kappa Induction Ceremony.
	20	Wednesday. Award of May degrees. University Commencement, 2015.

# THE ADMINISTRATION AND FACULTY OF COLUMBIA COLLEGE

## ADMINISTRATION

**Lee Bollinger, J.D.**

*President of the University*

**John Coatsworth, Ph.D.**

*Provost of the University*

**David Madigan, Ph.D.**

*Executive Vice President for Arts and Sciences*

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## FACULTY

### FACULTY A-Z LISTING

A (p. 6) B (p. 8) C (p. 10)

D (p. 13) E (p. 15) F (p. 16)

G (p. 17) H (p. 19) I (p. 21) J

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(p. 42)

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**BOARD OF VISITORS**

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## OFFICERS

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# ADMISSION

**Mailing address:** Office of Undergraduate Admissions, 1130  
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**Office hours:** Monday-Friday, 9 a.m.-5 p.m.

**Telephone:** 212-854-2522

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

**Website:** <http://undergrad.admissions.columbia.edu>

For information about undergraduate admissions, please visit the Office of Undergraduate Admissions website (<http://undergrad.admissions.columbia.edu>) or contact the office by phone or e-mail.

# FEES, EXPENSES, AND FINANCIAL AID

## ESTIMATED EXPENSES FOR THE ACADEMIC YEAR

An itemized estimate of the cost of attending Columbia College for the 2014–2015 academic year of nine months is as follows:

Tuition	\$48,646
Mandatory Fees	\$2,362
Average Room and Board Cost	\$12,432
Books and Personal Expenses	\$3,164
Travel	varies
<b>Total</b>	<b>\$66,604 + Travel</b>

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 2014–2015 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, log in to Student Services Online (SSOL) (<https://ssol.columbia.edu>) or 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 2014–2015

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 2014–2015 is \$24,323 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 \$1,624.

## 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	\$1,478
Columbia Health Fee	\$884
<b>Total</b>	<b>\$2,362</b>

## Transcript Fee

All first-time registrants at Columbia University are charged a one-time fee of \$105, which thereafter allows them to order transcripts without charge. This fee appears on the first Student Account Statement of the fall term.

## International Services Charge

All students holding a non-resident visa are charged an international services charge of \$50 each term, totaling \$100 for academic year 2014–2015. This fee supports the University's services to international students.

## Columbia Health Fee and Student Health Insurance Premiums

### Columbia Health Fee

Columbia Health services and programs are supported by the Columbia Health Fee. Students who pay the fee can access the on-campus services provided by the five departments of Columbia Health:

- Alice! Health Promotion
- Counseling and Psychological Services
- Disability Services
- Medical Services
- Sexual Violence Response

Students who pay the Columbia Health Fee pay no additional charges for most on-campus services. Paying the Columbia Health Fee is required for all full-time students. Half-time or part-time students may elect to pay the fee to have access to the full range of on-campus programs and services.

The Columbia Health Fee is billed separately for each term. The periods of coverage and fees for 2014–2015 are as follows:

Fall Term	September 1, 2014– January 19, 2015	\$442
Spring Term	January 20, 2015– August 31, 2015	\$442

## Student Health Insurance Premiums

The University policy also requires all registered full-time students to have acceptable health insurance coverage, in addition to on-campus programs and services provided by Columbia Health. Columbia University offers the Student Health Insurance Plan (Columbia Plan), which provides two levels of coverage for off-campus health care. The Columbia Plan is administered and underwritten by Aetna Student Health. As with all health insurance programs, there are limits and restrictions to the coverage provided by the Columbia Plan.

Full-time students are enrolled in the Gold Level of the Columbia Plan and billed for the insurance premium as well as the Columbia Health Fee. Half-time and part-time students may elect enrollment in the Columbia Plan, which also initiates payment of the Columbia Health Fee, described above.

Students who already have an alternate insurance plan that meets the University requirements may request a waiver from enrollment through Student Services Online (SSOL) (<https://ssol.columbia.edu>) before the deadline (September 19 for Fall enrollment; January 30 for new Spring enrollment; or June 12 for Summer enrollment). All waiver requests are considered, but approval is not guaranteed.

The following rates are for the 2014–2015 plan year. Columbia Plan rates and benefits change annually.

### Fall Term: September 1, 2014–January 19, 2015

Gold Plan	\$1,023
Platinum Plan	\$1,404

### Spring Term and Summer Session: January 20, 2015–August 31, 2015

Gold Plan	\$1,485
Platinum Plan	\$2,037

Students who wish to enroll in the Columbia Plan should make an on-line enrollment selection on SSOL annually. For the current dates of the open enrollment period, visit <http://health.columbia.edu/insurance>.

Students who do not make a selection and drop below full-time status during the Change-of-Program period will have their Columbia Health Fee and Columbia Plan premiums reversed.

For detailed information about Columbia Health, the Student Health Insurance Plan, or submitting a waiver request, visit <http://www.health.columbia.edu> or call 212-854-2284.

## 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 *Academic Regulations*). 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 results in failing grades in all courses.**

A student who withdraws is charged a withdrawal fee of \$75. In addition, students will be charged a housing fee once they leave a university residence. The Columbia Health Fee, the Columbia Health Insurance Plan Premium, and all application fees, late fees, and other special fees are not refundable if the student withdraws after the first 30 days of classes, and any coverage remains in effect until the end of the term.

Any adjustment to the tuition that the student has paid is determined by the date of withdrawal. 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.

Students are required to register for a full program of courses (minimum of 12 points), by the end of the Change-of-Program period, i.e. end of the second week of classes, each term. If a student is not enrolled in a minimum of 12 points, the student will be withdrawn.

## Fall and Spring Term Tuition Refund Schedule

For the purposes of tuition proration, a week is defined as beginning on Monday and ending on Sunday. Also note that the official Change-of-Program period normally ends on a Friday.

Description	Charge Assessed
No Registration	\$0
1st and 2nd week	Transcript fee <b>for new students only</b> , plus \$75 Withdrawal fee
3rd week	10% tuition, fees, plus \$75 Withdrawal fee
4th week	20% tuition, fees, plus \$75 Withdrawal fee
5th week	30% tuition, fees, plus \$75 Withdrawal fee
6th week	40% tuition, fees, plus \$75 Withdrawal fee
7th week	50% tuition, fees, plus \$75 Withdrawal fee
8th week	60% tuition, fees, plus \$75 Withdrawal fee
9th week and after	100% tuition, fees, plus \$75 Withdrawal fee

There is no difference in the proration schedule of a school or program charging per-point or flat rate tuition.



## 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-Friday, 9 a.m.-5 p.m.

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

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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, provided that students continue to demonstrate financial need. International students who did not apply for financial aid in their first year are not eligible to apply for financial aid in any subsequent years. While transfer admission is need-blind, financial aid resources for transfer students are very limited. Therefore, Columbia is unable to meet the full need of transfer students, with the exception of students who transfer from Columbia Engineering.

### 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% 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

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#### FREDERICK F. AND HELEN M. ABDOO SCHOLARSHIP FUND

(1998) Gifts of the family of Frederick F. Abdoos '41 and Helen M. Abdoos.

CHARLOTTE ACKERMAN SCHOLARSHIP FUND  
(2010) Gift of an anonymous donor.

CARROLL ADAMS SCHOLARSHIP FUND  
(1997) Gift of Russell F. Warren '62 and Laurie A. Warren.

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 '80, P'15.

JAMES HERMAN ALDRICH AND HERMAN ALDRICH EDSON SCHOLARSHIP FUND  
(1913) Gift of James Herman Aldrich CC 1863, in honor of the fiftieth anniversary of his graduation, and bequest of James Herman Aldrich CC 1863 and Mary Gertrude Edson Aldrich.

PATRICIA AND SHEPARD ALEXANDER SCHOLARSHIP FUND  
(2012) Bequest of Shepard L. Alexander '21 and Patricia Alexander.

SHEPARD L. ALEXANDER SCHOLARSHIP FUND  
(2011) Bequest of Shepard L. Alexander '21 and Patricia Alexander.

WILLIAM ALPERN SCHOLARSHIP FUND  
(1996) Gift of Minette Alpern and Barbara Alpern Engel in memory of William Alpern.

CECILE AND SEYMOUR ALPERT, M.D. SCHOLARSHIP FUND  
(2006) Gift of Seymour Alpert '39 and Cecile B. Alpert.

ALAN J. ALTHEIMER SCHOLARSHIP FUND  
(1992) Gift of the Jewish Students Scholarship Fund in honor of Alan Altheimer '23 °.

ALUMNI SCHOLARSHIP FUND  
(1935) Gift of the Alumni Fund.

GEORGE J. AMES/LAZARD FRERES SCHOLARSHIP FUND  
(1996) Gift of Lazard Freres in honor of George J. Ames '37 °.

ERICA L. AMSTERDAM FAMILY SCHOLARSHIP FUND FOR COLUMBIA COLLEGE  
(2002) Gift of Mark Lemle Amsterdam '66, P'07, P'10 in honor of his mother, Erica Amsterdam P'66.

CATHERINE AND DENIS ANDREUZZI SCHOLARSHIP FUND  
(1995) Gift of Denis M. Andreuzzi '53.

ANONYMOUS SCHOLARSHIP FUND  
(1984) Gift of an anonymous donor.

ANONYMOUS FUND for Student Aid #2  
(1954) 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 32476 SCHOLARSHIP FUND  
(2012) Gift of an anonymous donor.

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

RAYMOND F. ANTIGNAT SCHOLARSHIP FUND  
(1991) Bequest of Raymond F. Antignat '37.

ROONE P. ARLEDGE SCHOLARSHIP FUND  
(1987) Gift of Rooney P. Arledge '52 °.

NICHOLAS F. AND FRANCES N. ARTUSO  
SCHOLARSHIP FUND  
(2006) Gift of Anthony A. Artuso '80, P'08, P'12 and various  
donors in memory of Anthony's parents, Nicholas F. and  
Frances N. Artuso P'80.

ESTATE OF SYLVIA ASHLEY BEQUEST FOR GENERAL  
UNIVERSITY FINANCIAL AID  
(2008) Bequest of Sylvia Ashley.

LOUIS AND THEONIE ASLANIDES SCHOLARSHIP  
FUND  
(2013) Bequest of Peter C. Aslanides '62 in memory of his  
parents, Louis and Theonie Aslanides P'62.

CHARLES B. ASSIFF SCHOLARSHIP FUND  
(1996) Gift of Matthew Jon Assiff '89 in memory of his  
father, Charles B. Assiff P'89.

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

THE BILL AND INGRID ATKINSON MEMORIAL  
SCHOLARSHIP FUND  
(2012) Gift of William H. Atkinson '49.

FRANK AND HARRIET AYER SCHOLARSHIP FUND  
(1977) Bequest of Frank A. Ayer.

A. JAMES AND VONA HOPKINS BACH  
SCHOLARSHIP FUND  
(1992) Gift of A. James Bach '53.

FREDERICK AND ELEANORE BACKER  
SCHOLARSHIP FUND  
(1984) Bequest of Eleanore W. Backer.

BAKER FAMILY SCHOLARSHIP FUND  
(2004) Gift of Daniel P. Baker '76 and Rebecca Baker P'07,  
P'10.

THOMAS GARY BAKER SCHOLARSHIP FUND  
(1992) Gift of Jean M. Baker ° P'84 ° in memory of her son,  
Gary Thomas Baker '84.

ADELLE PHYLLIS BALFUS SCHOLARSHIP FUND  
(1989) Gift of Laurence Eberhardt Balfus '55 and Roberta R.  
Balfus °.

ALFRED BARABAS FUND  
(1978) Gift of the family and friends of Alfred M. Barabas '36.

ALFRED M. BARABAS MEMORIAL FUND  
(1988) Bequest of Alfred M. Barabas '36.

M. BENJAMIN BARON PRE-MEDICAL SCHOLARSHIP  
FUND  
(1993) Bequest of Etta Baron in memory of her husband, M.  
Benjamin Baron.

KYRA TIRANA BARRY AND DAVID BARRY  
SCHOLARSHIP FUND  
(2009) Gift of David Benjamin Barry '87 and Kyra Tirana  
Barry '87, P'17.

MICHAEL BARRY '89 SCHOLARSHIP FUND  
(2010) Gift of Michael Isaac Barry '89.

FREDERIC D. BARSTOW SCHOLARSHIP FUND  
(1943) Bequest of William S. Barstow.

ANDREW AND AVERY BARTH SCHOLARSHIP FUND  
(2009) Gift of Andrew Francis Barth '83, P16.

MILTON B. AND EDITH C. BASSON ENDOWMENT  
FUND  
(1987) Bequest of Milton B. Basson '29.

CLEMENT AND ELIZABETH PROBASCO BEACHEY  
SCHOLARSHIP FUND  
(1965) Bequest of Margaret Probasco Beachey in memory  
of her parents, Clement Beachey and Elizabeth Probasco  
Beachey.

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

WILLIAM C. AND ESTHER HOFFMAN BELLER  
SCHOLARSHIP FUND  
(1983) Gift of Esther Hoffman Beller in honor of her  
husband, William C. Beller CC 1919 and herself.

WILLIAM AITKEN BENSEL MEMORIAL  
ENDOWMENT

(1975) Bequest of William Aitken Bensel CC 1902 and Marguerite Curtis Bensel.

HERBERT R. BERK SCHOLARSHIP FUND

(1999) Bequest of Ruth L. Berk in memory of her husband, Herbert R. Berk '28.

THE ROBERT BERNE SCHOLARSHIP FUND

(2005) Gift of Robert Berne '60.

PINCUS BERNER MEMORIAL SCHOLARSHIP FUND

(1992) Bequest of Rose Wohl Hofstadter in memory of her brother-in-law, Pincus Berner.

ROBERT BERNOT '55 AND MORRIS LAMER  
SCHOLARSHIP FUND IN HONOR OF SAMARA  
BERNOT MESHEL '92

(1996) Gift of Robert Bernot '55, P'92 and Morris Lamer in honor of Samara Bernot Meshel '92.

YOGI BERRA SCHOLARSHIP FUND

(1959) Gift of various donors in honor of Yogi Berra.

ESTATE OF NORMAN B. BERRY SCHOLARSHIP  
FUND

(2008) Bequest of Norman B. Berry.

THE BETHILL FAMILY SCHOLARSHIP FUND

(2009) Gift of Charles Douglas Bethill '69.

JERRY AND EVELYN BISHOP SCHOLARSHIP FUND

(1984) Gift of Franklin G. Bishop '42 ° and Evelyn Bishop '42 ♢.

GIUSEPPE AND MARIA BISIO SCHOLARSHIP FUND

(1993) Gift of Attilio Bisio '52, P'85 in honor of Giuseppe and Maria Bisio.

BLACK ALUMNI COUNCIL SCHOLARSHIP FUND

(2002) Gift of Columbia College Black Alumni Council, alumni and friends.

CHARLES P. BLACKMORE ATHLETIC SCHOLARSHIP

(1990) Bequest of Charles P. Blackmore '38.

LEO BLITZ MEMORIAL SCHOLARSHIP FUND

(1987) Gift of Steven M. Blitz '62.

THE WILLARD AND ROBERTA BLOCK FAMILY  
SCHOLARSHIP FUND

(1999) Gift of Willard Block '51.

MAXWELL A. BLOOMFIELD SCHOLARSHIP FUND

(2002) Bequest of Maxwell Bloomfield.

BOCKLAGE FAMILY SCHOLARSHIP FUND

(2010) Gift of Chandler Byron Bocklage '00 and Alanna Bocklage.

ALEXANDER BODINI ENDOWED FINANCIAL AID  
FUND

(2004) Gift of ACP Holdings, Inc. in memory of Alexander Bodini.

PHILIP BONANNO SCHOLARSHIP FUND

(1996) Gift of Philip P. Bonanno '54.

HOWARD H. BORN SCHOLARSHIP FUND

(1990) Bequest of Howard H. Born.

H. HUBER BOSCOWITZ SCHOLARSHIP FUND

(1994) Bequest of H. Huber Boscowitz '23.

DR. LEONARD BRAM SCHOLARSHIP FUND

(2011) Gift of Jonathan D. Bram '87, P'14, P'17.

EDWARD M. BRATTER SCHOLARSHIP FUND

(1984) Gift of Thomas Bratter '61 ° and Carole Bratter '61 ♢, P'87, P'90 in honor of Edward M. Bratter '26.

THE MICHAEL O. BRAUN SCHOLARSHIP FUND

(2006) Gift of Michael O. Braun '70, P'09.

BREAD OF LIFE FOUNDATION SCHOLARSHIP

(1993) Gift of Paul J. Grant '65.

JESSICA LEE BRETT SCHOLARSHIP FUND

(2008) Gift of James T. Brett '84 and Patricia Brett '87.

LAURENCE AND MARION BREWER '38 CC  
SCHOLARSHIP FUND

(2006) Bequest of Laurence A. Brewer '38 and Marion Brewer.

JOHN B. BRIDGWOOD SCHOLARSHIP FUND

(1985) Gift of John B. Bridgwood °.

BRILLO-SONNINO FAMILY SCHOLARSHIP FUND

(2009) Gift of Mark D. Sonnino '82 and Lyn Brillo.

HAROLD BROD MEMORIAL ROOM SCHOLARSHIP  
FUND

(1958) Gift of Beth Brod '47 ♢ in memory of her husband, Harold Brod '47.

THE CRAIG B. BROD SCHOLARSHIP

(2011) Gift of Craig B. Brod '77.

DOROTHY R. BRODIN SCHOLARSHIP FUND FOR  
THE HUMANITIES

(2007) Bequest of Dorothy R. Brodin.

BRONIN FAMILY SCHOLARSHIP FUND

(1996) Gift of Andrew Bronin '69.

ROBERT R. BROOKHART MEMORIAL SCHOLARSHIP  
FUND

(1991) Bequest of Herbert A. Deane '42 in honor of Robert R. Brookhart '59 °.

## FRANK AND DEENIE BROSENS SCHOLARSHIP FUND

(2006) Gift of the Frank Brosens and Deenie Brosens Foundation.

## FREDRIC WALDEN BROWN MEMORIAL SCHOLARSHIP FUND

(2005) Bequest of John H. and Norma L. Brown.

## HAROLD BROWN SCHOLARSHIP FUND

(1990) Gift of Harold Brown '46.

## SAMUEL POTTER BROWN SCHOLARSHIP FUND

(1998) Bequest of Samuel P. Brown '41.

## CARL M. BRUKENFELD CLASS OF 1927 MEMORIAL SCHOLARSHIP FUND

(1970) Gift of M. Ronald Brukenfeld °.

## CLARENCE BRUNER-SMITH SCHOLARSHIP FUND - COLUMBIA COLLEGE

(2002) Bequest of Clarence Bruner-Smith '25.

## MICHAEL S. BRUNO, M.D. SCHOLARSHIP FUND

(1989) Gift of Michael S. Bruno '43.

## DR. ELI BRYK SCHOLARSHIP FUND

(1999) Gift of Eli Bryk '78, P'07, P'08, P'10, P'13.

## BRYNJOLFSSON FAMILY UNDERGRADUATE SCHOLARSHIP FUND

(2008) Gift of John Brynjolfur Brynjolfsson '86 and Margaret Brynjolfsson.

## BUCHMAN FAMILY SCHOLARSHIP FUND

(1989) Gift of Stephen L. Buchman '59.

## ANNIE P. BURGESS SCHOLARSHIP FUND

(1913) Bequest of Annie P. Burgess.

## DANIEL BURGESS SCHOLARSHIP FUND

(1913) Bequest of Annie P. Burgess.

## J. GARY BURKHEAD SCHOLARSHIP FUND

(1988) Gift of J. Gary Burkhead '63.

## DR. IRVIN J. BUSSING SCHOLARSHIP FUND

(1996) Gift of Irvin Bussing '22 °.

## RICHARD BUTLER FOUNDATION

(1903) Gift of Richard Butler in memory of her husband, Richard Butler.

## BENJAMIN J. BUTTENWIESER PRESIDENTIAL SCHOLARSHIP FUND

(1992) Gift of Lionel I. Pincus °, P'92, P'95, the Charles H. Revson Foundation and various donors in memory of Benjamin J. Buttenwieser CC 1919.

## MICHAEL H. BYOWITZ AND RUTH HOLZER SCHOLARSHIP FUND

(2008) Gift of Michael H. Byowitz '73 and Ruth Holzer P'13 in honor of the thirty-fifth anniversary of Michael's graduation.

## GURIAN FAMILY SCHOLARSHIP FUND

(2008) Gift of Craig R. Gurian '79 and Lori Bikson-Gurian P'13.

## JOHN T. CAHILL MEMORIAL SCHOLARSHIP FUND

(1967) Gift of various donors in memory of John T. Cahill '24.

## EDWARD F. CALESA SCHOLARSHIP FUND

(1989) Gift of Edward Calesa '63.

## STEVEN C. CALICCHIO FUND

(2013) Gift of Steven C. Calicchio Foundation.

## JOHN AND BETTY CARROLL MEMORIAL SCHOLARSHIP FUND

(2004) Gift of David Carroll '76 and Barbara Bartik P'11 in honor of David's parents, John and Betty Carroll P'79.

## PROFESSOR JOHN P. CARTER SCHOLARSHIP FUND

(2001) Bequest of Rachel H. Carter in memory of her husband, John P. Carter '36.

## EDWIN H. CASE MEMORIAL SCHOLARSHIP FUND

(1994) Gift of Stephen H. Case '64, P'92 and various donors in memory of Stephen's son, Edwin H. Case '92.

## DOUGLAS A. CHADWICK, JR. SCHOLARSHIP FUND

(2004) Gift of Douglas A. Chadwick '61.

## FRANK W. CHAMBERS SCHOLARSHIP FUND

(1950) Gift of various donors in memory of Frank W. Chambers CC 1906.

## SOU CHAN SCHOLARSHIP FUND

(1949) Gift of Sou Chan.

## RYAN CHANG SCHOLARSHIP FUND

(2011) Gift of Ryan S. Chang '02.

## JOHN CHEE SCHOLARSHIP FUND

(1988) Gift of John K. C. Chee '68, P'95, P'97, P'01.

## CHARLIE CHO SCHOLARSHIP FUND

(2011) Gift of Charles W. Cho '96.

## SILAS CHOU SCHOLARSHIP FUND

(2010) Gift of Silas Kei-Fong Chou.

## JEREMIAH AND YOLANDA CIANCIA FAMILY SCHOLARSHIP FUND

(2008) Gift of Jeremiah and Yolanda Ciancia Foundation.



RICHARD H. CIPOLLA MEMORIAL SCHOLARSHIP FUND  
(1981) Gift of John and Patricia Klingenstein in memory of Richard H. Cipolla.

ROBERT CIRICILLO SCHOLARSHIP FUND  
(2004) Gift of Robert Carl Ciricillo '67.

JOHN J. CIRIGLIANO SCHOLARSHIP FUND  
(1987) Gift of John J. Cirigliano '64.

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

CLASS OF 1892 ARTS AND MINES SCHOLARSHIP  
(1917) Gift of various donors in the Class of 1892 Arts and Mines.

CLASS OF 1896 ARTS AND MINES SCHOLARSHIP  
(1921) Gift of various donors in the Class of 1896 Arts and Mines.

CLASS OF 1900 FUND  
(1950) Gift of various donors in the Class of 1900 College, Engineering and Architecture.

CLASS OF 1902 COLLEGE AND ENGINEERING SCHOLARSHIP FUND  
(1952) Gift of various donors in the Class of 1902.

CLASS OF 1905 SCHOLARSHIP FUND  
(1955) Gift of various donors in the Class of 1905.

CLASS OF 1906 FRANK D. FACKENTHAL SCHOLARSHIP FUND  
(1948) Gift of various donors in the Class of 1906.

CLASS OF 1907 ENGINEERING FUND  
(1937) Gift of various donors in the Class of 1907.

CLASS OF 1908 COLLEGE FUND FOR A ROOM IN RESIDENCE HALLS FUND  
(1948) Gift of various donors in the Class of 1908.

CLASS OF 1909 SCHOLARSHIP FUND  
(1959) Gift of various donors in the Class of 1909.

CLASS OF 1911 FUND  
(1936) Gift of various donors in the Class of 1911.

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

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

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

CLASS OF 1916 SCHOLARSHIP FUND  
(1951) Gift of various donors in the Class of 1916.

CLASS OF 1917 COLLEGE, ENGINEERING, JOURNALISM FUND  
(1939) Gift of various donors in the Class of 1917.

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

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

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

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

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

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

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

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

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

CLASS OF 1927 SCHOLARSHIP FUND  
(1947) Gift of various donors in the Class of 1927.

CLASS OF 1928 COLLEGE PERMANENT FUND  
(1956) Gift of various donors in the Class of 1928.

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

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

THE CLASS OF 1933 SCHOLARSHIP FUND  
(2008) Bequest of Mabel H. Tunstead.

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

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

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

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



CLASS OF 1942 GEORGE A. HYMAN, M.D.  
SCHOLARSHIP FUND  
(2005) Gift of Barry S. Hyman '77 and the George A. Hyman Revocable Trust in memory of Barry's father, George A. Hyman '42, P'77.

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

CLASS OF 1943 SCHOLARSHIP FUND  
(1976) Gift of various donors in the Class of 1943.

CLASS OF 1951 SCHOLARSHIP FUND  
(1996) Gift of various donors in the Class of 1951.

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

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

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

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

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

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

THE CLASS OF 1958 PETER STUYVESANT SCHOLARSHIP  
(1992) Gift of David L. Londoner '58, P'91, Bernard W. Nussbaum '58, P'93 and other graduates of Stuyvesant High School in 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) Gift of various donors in the Class of 1966.

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

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

CLASS OF 1975 NEIL SELINGER MEMORIAL SCHOLARSHIP FUND  
(2013) Gift of various donors in the Class of 1975.

THE CLASS OF 1984 SCHOLARSHIP FUND  
(2013) Gift of various donors in the Class of 1984.

THE COLUMBIA COLLEGE CLASS OF 2005 SCHOLARSHIP FUND  
(2013) Gift of various donors in the Class of 2005.

MICHAEL J. CLEMENS SCHOLARSHIP FUND  
(1990) Bequest of Michael J. Clemens '61.

ETHEL CLYDE SCHOLARSHIP FUND  
(1979) Bequest of Ethel Clyde P'30.

DONN COFFEE MEMORIAL SCHOLARSHIP FUND  
(2005) Gift of Toni Coffee '55 ♡.

JOAN M. COHEN SCHOLARSHIP FUND  
(1987) Gift of Alan N. and Joan M. Cohen Foundation.

SANFORD M. COHEN SCHOLARSHIP FUND  
(1996) Gift of Sanford M. Cohen '83.

PETER AND JOAN COHN SCHOLARSHIP FUND  
(2004) Gift of Peter F. Cohn '58, P'93.

COLE FUND  
(1943) Bequest of Edward F. Cole.

MAE AND HARRY COLE MEMORIAL FUND  
(1965) Bequest of Harry Dix Cole CC 1913.

HENRY S. COLEMAN SCHOLARSHIP FUND  
(1992) Gift of Bradford Higgins '74 in honor of Henry S. Coleman ♡.

HENRY S. COLEMAN LEADERSHIP SCHOLARSHIP FUND  
(1994) Gift of Robert F. Coviello '67 and Mary Lou Coviello P'99 in honor of Henry S. Coleman ♡.

LAURA AND STEVEN COLEMAN SCHOLARSHIP FUND  
(2013) Gift of Steven Earl Coleman '83, P'15.

PERRY MCDONOUGH COLLINS SCHOLARSHIP FUND  
(1917) Bequest of Kate Collins Brown in memory of her uncle, Perry McDonough Collins.

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

COLUMBIA COLLEGE SCHOLARSHIP AND FELLOWSHIP FUND  
(1968) Gift of various donors.

COLUMBIA COLLEGE SCHOLARSHIP FUND  
(2011) Gift of various donors.

COLUMBIA COLLEGE VARIOUS SCHOLARSHIP  
(1981) Gift of various donors.

## COLUMBIA COLLEGE WOMEN SCHOLARSHIP FUND

(2009) Gift of various donors.

## COLUMBIA UNIVERSITY ALUMNI CLUB OF NASSAU COUNTY SCHOLARSHIP FUND

(1986) Gift of the Columbia University Alumni Club of Nassau County.

## 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 an anonymous donor.

## COOK FAMILY FUND

(2011) Gift of Michael L. Cook '65.

## CORNACCHIA FAMILY SCHOLARSHIP FUND

(2010) Gift of Thomas William Cornacchia '85, P'17 and Goldman Sachs Charitable Gift Fund.

## COROMILAS SCHOLARSHIP FUND

(2010) Gift of James and Lynn Coromilas P'09, P'11.

## CHARLES K. COSSE MEMORIAL SCHOLARSHIP FUND

(1975) Gift of Anne L. Cosse ° in memory of her husband, Charles K. Cosse '25.

## PAUL AND LILLIAN COSTALLAT SCHOLARSHIP FUND

(1972) Bequest of Paul and Lillian Costallat.

## BERTHE COSTIKYAN SCHOLARSHIP FUND

(1990) Gift of Andrew M. Costikyan '43 ° and Edward N. Costikyan '47 ° in memory of their mother, Berthe Costikyan P'43 °, P'47 °.

## CHARLES HALSTEAD COTTINGTON SCHOLARSHIP FUND - COLUMBIA COLLEGE

(2002) Bequest of Marianne Cottington in memory of her husband, Charles Halstead Cottington.

## LOUISE CRAIGMYLE SCHOLARSHIP FUND

(1960) Gift of Louise Craigmyle °.

## FREDERIC M. AND MARY E. CURRAN CLASS OF 1919 SCHOLARSHIP FUND

(1967) Bequest of Frederic M. CC 1919 and Mary E. Curran.

## CHESTER W. CUTHELL CLASS OF 1905 SCHOLARSHIP FUND

(1945) Gift of various donors in the Class of 1905 in honor of the fortieth anniversary of their graduation.

## CHARLES ANDERSON DANA SCHOLARSHIP FUND

(1988) Gift of David S. Dana '53 in memory of his father, Charles A. Dana CC 1902.

## HORACE E. DAVENPORT FUND

(1958) Gift of Horace E. Davenport '29 °.

## VERA B. DAVID SCHOLARSHIP FUND

(1963) Bequest of Vera B. David.

## ARTHUR M. DAVIS SCHOLARSHIP FUND

(1989) Bequest of Arthur M. Davis '24.

## A.M. DAVIS SCHOLARSHIP FUND

(1944) Gift of A.M. Davis °.

## EDWIN F. DAVIS SCHOLARSHIP FUND

(1939) Bequest of Edwin F. Davis.

## THE PIRI AND NATE DAVIS FAMILY SCHOLARSHIP

(2005) Gift of Eugene I. Davis '75 and Stacey R. Davis P'05, P'07.

## SARAH DAVIS FINANCIAL AID SCHOLARSHIP FUND

(1998) Gift of Hank Davis '63.

## JUDGE ARCHIE DAWSON MEMORIAL SCHOLARSHIP FUND

(1964) Gift of various donors in memory of Archie Dawson '21.

## THE RAUL J. DE LOS REYES MEMORIAL SCHOLARSHIP FUND

(2005) Gift of Richard Neil de los Reyes '97.

## HERBERT A. DEANE SCHOLARSHIP FUND

(1991) Bequest of Herbert A. Deane '42.

## THE DEBART SCHOLARSHIP FUND - COLUMBIA COLLEGE

(2002) Gift of J. Richard deBart.

## LEONARDO C. AND MARY M. DE MORELOS SCHOLARSHIP FUND

(1999) Bequest of Leonardo C. De Morelos.

## LELAND S. DENNING SCHOLARSHIP FUND

(2005) Bequest of Leland S. Denning '39.

## ROBERT STEVEN DENNING SCHOLARSHIP FUND

(2008) Gift of the Sage Foundation.

## ROBERT STEVEN DENNING SCHOLARSHIP FUND

(2014) Gift of the Sage Foundation in honor of the 30th birthday of Robert Steven Denning '06.

## CARL W. DESCH SCHOLARSHIP FUND IN MEMORY OF KATHARINE W. DESCH

(1992) Gift of Carl W. Desch '37 ° in memory of his wife, Katharine Desch.

WILLIAM B. AND ALAN TAYLOR DEVOE  
SCHOLARSHIP FUND  
(1985) Bequest of Edith T. Alexander in memory of her first husband, William Devoe CC 1906, and in memory of Alan Devoe.

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 CC 1910.

SIDNEY R. AND ARTHUR W. DIAMOND  
SCHOLARSHIP FUND  
(1986) Gift of Sidney R. Diamond '20 ° and Arthur W. Diamond '25 °.

LEONARD DICKSON SCHOLARSHIP FUND  
(1962) Gift of the Dickson Foundation in memory of Leonard Dickson CC 1913.

WILLIAM A.S. DOLLARD AND BERNARD F. KELLEY  
SCHOLARSHIP  
(2001) Bequest of William A.S. Dollard '24.

MARTIN DORSCH STUDENT ASSISTANCE FUND  
(1978) Bequest of Martin Dorsch.

PAUL SEYMOUR DREUX SCHOLARSHIP FUND  
(1984) Bequest of Paul S. Dreux CC 1918.

DRL FUND  
(2010) Gift of an anonymous donor.

AVRAM DRORI SCHOLARSHIP FUND  
(2010) Gift of Avram Drori '04 .

ELIZABETH AND DANIEL DWYER SCHOLARSHIP  
FUND  
(2010) Gift of Elizabeth A. Dwyer '92 °.

THE DYCKMAN INSTITUTE SCHOLARSHIP FUND  
(1943) Gift of the Dyckman Institute.

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

DANIEL EASTMAN SCHOLARSHIP FUND  
(1978) Bequest of Ida R. Eastman in memory of her son, Daniel Eastman.

BERIL EDELMAN MEMORIAL SCHOLARSHIP FUND  
(1997) Gift of Joan Goody ° in memory of her father, Beril Edelman '24.

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

DR. JAMES C. EGBERT AND LESTER D. EGBERT  
MEMORIAL SCHOLARSHIP FUND  
(1955) Gift of Lester D. Egbert CC 1914 ° in memory of his father, James C. Egbert CC 1881.

JOHN S. AND SARAH STONE EHLINGER  
SCHOLARSHIP FUND  
(2010) Gift of John S. Ehlinger '91.

ADOLPHUS EHRLICH SCHOLARSHIP FUND  
(2011) Bequest of Adolphus O. Ehrlich.

THE ERIC EISNER SCHOLARSHIP FUND  
(2010) Gift of Eric Eisner '70, P'11.

ABIGAIL ELBAUM SCHOLARSHIP FUND  
(2007) Gift of Abigail Black Elbaum '92.

DANIEL GIRAUD ELLIOT FUND  
(1949) Bequest of Margaret Henderson Elliot.

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

SOLTON ENGEL NATIONAL SCHOLARSHIP FUND  
(1950) Gift of Solton Engel CC 1916 °.

JEREMY G. EPSTEIN '67 SCHOLARSHIP FUND  
(2003) Gift of Jeremy G. Epstein '67 °.

ESPOSITO-CRANDALL FAMILY SCHOLARSHIP FUND  
(2010) Gift of Michele A. Esposito '96.

J. HENRY ESSER SCHOLARSHIP FUND  
(1988) Gift of the Marion Esser Kaufman Foundation.

J. HENRY ESSER SCHOLARSHIP FUND  
(2012) Gift of the Marion Esser Kaufman Foundation.

EXTER FAMILY SCHOLARSHIP FUND  
(2011) Gift of Neil and Diane Exter P'14.

MICHAEL AND JANE DIEHL FACKENTHAL  
SCHOLARSHIP AND FELLOWSHIP FUND  
(1968) Bequest of Frank D. Fackenthal CC 1906 in memory of his parents, Michael and Jane Diehl Fackenthal P CC 1906.

FALK WALLACE FAMILY SCHOLARSHIP  
(2010) Gift of Edward E. Wallace '71 and Pamela S. Falk P'12, P'14.

HAMEN AND PHYLLIS FAN FAMILY SCHOLARSHIP  
FUND  
(2011) Gift of Hamen Shi Hoo Fan P'13.

FANG FAMILY SCHOLARSHIP FUND  
(2011) Gift of Anna Ai Fang-Hamm '04.

## GERALD FEINBERG MEMORIAL SCHOLARSHIP FUND

(2007) Bequest of Barbara Jene Feinberg P'92, P'95 in memory of her husband, Gerald Feinberg '53, P'92, P'95.

## PHILIP FELDMAN SCHOLARSHIP FUND

(1985) Bequest of Philip Feldman CC 1918.

## SYLVIA FELLER AND LUCILLE KNIPE SCHOLARSHIP FUND

(2000) Gift of Matthew W. Feller '76.

## FERGANG FAMILY SCHOLARSHIP FUND

(2009) Gift of Yale M. Fergang '87.

## E. ALVIN AND ELAINE M. FIDANQUE FUND

(1994) Bequest of E. Alvin Fidanque '26.

## ANDREW L. FISHER '66 CC SCHOLARSHIP FUND

(2005) Gift of Louis A. Goodman '65 and Phebe Goodman.

## ELIZA AND CANNING FOK ENDOWED FUND FOR INTERNATIONAL STUDENT FINANCIAL AID

(2011) Gift of Canning Fok P'13.

## FORD/EEOC ENDOWMENT SCHOLARSHIP FUND-COLUMBIA COLLEGE

(2003) Gift of the Ford Motor Company.

## SIDNEY FORSCH SCHOLARSHIP FUND

(1967) Gift of Josephine E. Forsch ° in memory of her husband, Sidney Forsch CC 1906.

## MABEL V.P. SMITH FORSYTH SCHOLARSHIP FUND

(1977) Bequest of Mabel V.P. Smith Forsythe.

## GARY S. FRAGIN SCHOLARSHIP FUND

(1990) Gift of Gary S. Fragin.

## IAN FORBES FRASER SCHOLARSHIP FUND

(1974) Bequest of Ian Forbes Fraser '29.

## JOHN AND MAY FRASER SCHOLARSHIP FUND

(1974) Bequest of Ian Forbes Fraser '29.

## JUDGE JOHN JOSEPH FREEDMAN SCHOLARSHIP FUND

(1995) Bequest of Josephine Van Zindt in memory of her father, John Freedman.

## DORIS AND JESSE FREIDIN SCHOLARSHIP FUND

(1987) Gift of John S. Freidin '62, in memory of his parents, Doris and Jesse Freidin P'62.

## ALBERT W. FRIBOURG SCHOLARSHIP FUND

(1993) Bequest of Albert W. Fribourg '24.

## A. ALAN FRIEDBERG SCHOLARSHIP FUND

(1986) Gift of A. Alan Friedberg '53.

## LAWRENCE N. FRIEDLAND SCHOLARSHIP FUND

(1991) Gift of Lawrence N. Friedland '47.

## JACOB W. FRIEDMAN SCHOLARSHIP FUND

(1995) Gift of Jacob W. Friedman '33 °.

## ROBERT AND BARBARA FRIEDMAN SCHOLARSHIP FUND

(2010) Gift of Robert L. Friedman '64.

## GORDON BROOK FULCHER, JR. SCHOLARSHIP FUND

(2011) Gift of Eleanor Fulcher in memory of her brother, Gordon Brook Fulcher '61.

## PHILIP FUSCO MEMORIAL SCHOLARSHIP FUND

(1992) Gift of various donors in memory of Philip R. Fusco '88.

## GAGUINE SCHOLARSHIP FUND

(1984) Gift of Benito Gaguine '32 °, P'69.

## STUART GARCIA MEMORIAL SCHOLARSHIP FUND

(1987) Gift of various donors in memory of Stuart Larsen Garcia '84.

## DOUGLAS B. GARDNER SCHOLARSHIP FUND

(2002) Gift of Neal Wolkoff '77.

## GEHRIG SCHOLARSHIP FUND

(1958) Gift of Mel Allen and various donors in honor of Lou Gehrig '25 °.

## GEORGE AUGUSTUS GEIGER SCHOLARSHIP FUND

(1976) Bequest of Louise Lillian Geiger.

## 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 Honoro Gibson Pelton in memory of her father, William Henry Gibson '75.

## ARTHUR A. GLADSTONE ENDOWED SCHOLARSHIP FUND

(2009) Bequest of Arthur A. Gladstone '32.

## JOSEPH E. GLASS JR. SCHOLARSHIP FUND

(1996) Gift of Christopher Karim Tahbaz '86 and various donors in memory of Joseph Glass '86.

## MARK K. GLASSER FUND

(2008) Gift of Mark K. Glasser '73.

## GM/EEOC ENDOWED SCHOLARSHIP FUND-COLUMBIA COLLEGE

(1984) Gift of General Motors/EEOC Endowed Scholarship Program.

## THOMAS GLOCER SCHOLARSHIP FUND

(2013) Gift of Thomas H. Glocer '81.



CHARLES N. AND JANE GOLDMAN SCHOLARSHIP FUND

(1993) Gift of Charles N. Goldman '53.

ABRAHAM AND LEE GOLDEN SCHOLARSHIP FUND

(2011) Gift of Bruce Golden '81 and Michelle Mercer.

GOLDEN FUTURE SCHOLARSHIP FUND

(2012) Gift of an anonymous donor.

GOLDSCHMIDT FAMILY SCHOLARSHIP FUND

(2010) Gift of Lawrence E. Goldschmidt '64 and Beatrice C. Goldschmidt '32 ♠, P'64.

ERIC AND TAMAR GOLDSTEIN SCHOLARSHIP FUND

(2006) Gift of Eric S. Goldstein '80.

THE CARTER GOLEMBE SCHOLARSHIP FUND

(1995) Gift of various donors in honor of Carter H. Golembe '45 °.

JOHN P. GOMMES SCHOLARSHIP FUND

(2011) Gift of Thomas D. Gommes '98 in honor of his father, John Patrick Gommes P'98.

EMANUEL GOODMAN SCHOLARSHIP FUND

(1989) Bequest of Emanuel Goodman '22.

MAURICE AND SARA GOODMAN SCHOLARSHIP FUND

(1988) Gift of Maurice B. Goodman '23 ° in honor of Sara Goodman.

ALAN GORNICK SCHOLARSHIP FUND

(1990) Gift of Alan L. Gornick '35 °.

ROBERT J. KRANE AND JULIUS Y. GRAFF SCHOLARSHIP FUND

(1997) Gift of Robert J. Krane '63 ° and Diane Graff Krane '63 ♠, P'04 in honor of Diane's father, Julius Y. Graff, and later renamed in memory of Robert J. Krane '63 °, P'04.

THE SARAH E. GRANT SCHOLARSHIP FUND AT COLUMBIA COLLEGE

(2007) Gift of Geoffrey T. and Annette Morrell Grant P'12, P'17.

GREATER NEW YORK MUTUAL INSURANCE COMPANY FUND

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

MATTHEW S. GREER SCHOLARSHIP FUND

(2010) Gift of Matthew Seymour Greer '00.

THE GEOFFREY E. GROSSMAN SCHOLARSHIP FUND

(2007) Gift of Geoffrey Eric Grossman '08.

THE MATTHEW C. GROSSMAN SCHOLARSHIP FUND

(2007) Gift of Matthew Craig Grossman '05.

THE SHARON AND PETER GROSSMAN FAMILY SCHOLARSHIP

(2005) Gift of Peter A. Grossman '79 and Sharon Grossman P'05, P'08.

PETER GRUENBERGER FAMILY SCHOLARSHIP FUND

(2000) Gift of Peter Gruenberger '58.

WALTER GUENSCH SCHOLARSHIP FUND

(2001) Gift of Walter Alfred Guensch '39.

LEE AND ELIZABETH GUITTAR SCHOLARSHIP FUND

(1994) Gift of Lee J. Guittar '53.

H. HAROLD GUMM AND ALBERT VON TILZER SCHOLARSHIP FUND

(1998) Bequest of H. Harold Gumm CC 1901.

LAWRENCE GUSSMAN COLUMBIA COLLEGE SCHOLARSHIP FUND

(1987) Gift of Lawrence A. Gussman '37 °, P'64 in honor of the fiftieth anniversary of his graduation.

G. HENRY HALL FUND

(1915) Bequest of George Henry Hall.

SEWARD HENRY HALL SCHOLARSHIP FUND

(2002) Bequest of Seward Henry Hall '37.

ALBERT J. HAMBRET FUND

(1969) Bequest of Albert J. Hambret.

ALEXANDER HAMILTON SCHOLARSHIP FUND

(2011) Gift of Peter N. Hiebert '71.

GEORGE HAMMOND SCHOLARSHIP FUND AT COLUMBIA COLLEGE

(2004) Bequest of George Hammond '28.

JINDUK HAN AND FAMILY SCHOLARSHIP FUND

(2011) Gift of Jinduk Han '85, P'17.

ELLEN KING HAND MEMORIAL FUND

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

JAMES RENWICK HARRISON SCHOLARSHIP FUND

(1936) Bequest of James Renwick Harrison '17.

PROFESSOR C. LOWELL HARRISS SCHOLARSHIP FUND

(1988) Gift of Lowell Gordon Harriss '68, P'99 in honor of his father, C. Lowell Harriss P'68.



## LAWRENCE S. HARTE SCHOLARSHIP FUND

(1991) Gift of Lawrence S. Harte '53, P'88.

## THE PETER AND HILARY HATCH SCHOLARSHIP FUND

(2008) Gift of Peter Arthur Hatch '92 and Hilary R. Hatch '92.

## PERCY D. HAUGHTON MEMORIAL FUND

(1926) Gift of Haughton Memorial Committee in memory of Percy D. Haughton.

## HENRY FIELD HAVILAND SCHOLARSHIP FUND

(1988) Bequest of Henry Field Haviland CC 1902.

## DEAN HERBERT E. HAWKES MEMORIAL FUND

(1943) Gifts of various donors in memory of Herbert E. Hawkes.

## DEAN HERBERT E. HAWKES MEMORIAL SCHOLARSHIP FUND

(2005) Gift of Charles O'Malley '44 °.

## CHARLES HAYDEN MEMORIAL SCHOLARSHIP FUND

(1945) Gift of the Charles Hayden Foundation.

## WILLIAM RANDOLPH HEARST FOUNDATION SCHOLARSHIP FUND

(1984) Gift of the William Randolph Hearst Foundation.

## THE ROBERT M. HECKER SCHOLARSHIP FUND

(2009) Bequest of Robert M. Hecker '36.

## WILLIAM C. HEFFERNAN SCHOLARSHIP FUND

(1987) Gift of William C. Heffernan '68.

## HELLENIC STUDENT FUND

(2013) Gift of an anonymous donor.

## M. AND M. HERMAN SCHOLARSHIP FUND

(1988) Gift of Paul R. Herman '58, P'97, P'98 in memory of his parents, Murry and Miriam Herman P'58.

## STEPHEN A. HERMIDES SCHOLARSHIP FUND

(1983) Bequest of Stephen A. Hermides.

## RICHARD HERPERS MEMORIAL SCHOLARSHIP FUND

(1962) Gift of Mrs. Henry F. Herpers, Sr. in memory of her son, Richard Herpers '38.

## DAVID B. HERTZ COLLEGE/ENGINEERING INTERSCHOOL SCHOLARSHIP FUND

(1989) Gift of David Bedndel Hertz '39.

## OREN C. HERWITZ 1930 MEMORIAL ENDOWED SCHOLARSHIP FUND

(2009) Bequest of Mary E. Herwitz in memory of her husband, Oren C. Herwitz '30.

## ANDREW L. HERZ SCHOLARSHIP FUND

(1988) Gift of Andrew L. Herz '68.

## ROBERT IRWIN HERZ MEMORIAL FUND

(1969) Gift of Fred S. Herz °, P'66 ° in honor of his son, Robert I. Herz '66 °.

## ABRAM S. HEWITT MEMORIAL

(1953) Gift of Norvin H. Green CC 1919 ° in memory of Abram S. Hewitt.

## PROFESSOR GEORGE W. HIBBITT MEMORIAL SCHOLARSHIP FUND

(1966) Gift of Thomas E. Bratter '61, P'87, P'90 and other donors in memory of George Whiting Hibbitt.

## RICHARD AND CHRISTIANE HIEGEL SCHOLARSHIP FUND

(2012) Gift of Richard J. Hiegel '56.

## DAVID AND NANCY HILLIS SCHOLARSHIP FUND

(1988) Gift of Leslie David Hillis '67.

## PATRICIA ELLEN HIRSCH SCHOLARSHIP FUND

(1977) Gift of various donors in memory of Patricia Ellen Hirsch.

## CHARLES F. HOELZER JR., MEMORIAL SCHOLARSHIP FUND

(1980) Gift of various donors in memory of Charles F. Hoelzer Jr. '42.

## HOFFEN FAMILY SCHOLARSHIP FUND

(2013) Gift of Howard Ira Hoffen and Sandra H. Kim Hoffen '87.

## ROBERTA L. AND JOEL S. HOFFMAN SCHOLARSHIP FUND

(1996) Gift of Joel S. Hoffman '67, P'05.

## FRANK AND MARY HOGAN SCHOLARSHIP FUND

(1975) Gift of Mary R. Hogan ° in memory of her husband, Frank Smithwick Hogan '24.

## JOHAN JØRGEN HOLST SCHOLARSHIP FUND

(1994) Gift of the American Scandinavian Foundation.

## HONG KONG ALUMNI ASSOCIATION SCHOLARSHIP FUND

(1992) Gift of Columbia University Alumni Association (Hong Kong) Limited.

## JAMES T. HORN SCHOLARSHIP FUND

(1938) Gift of Sarah L. Horn ° and Mary T. Horn ° in memory of their brother, James T. Horn.

## DAVID H. HOROWITZ SCHOLARSHIP FUND

(1994) Gift of David H. Horowitz '48 °.

## ELISSA HOROWITZ SCHOLARSHIP FUND

(2004) Gift of Benjamin Abraham Horowitz '88, P'11, P'16.

FELICIA AND BEN HOROWITZ SCHOLARSHIP FUND  
(2010) Gift of Benjamin Abraham Horowitz '88, P'11, P'16.

LIBBY HOROWITZ SCHOLARSHIP FUND  
(1999) Gift of Donald J. Horowitz '56, P'88 in honor of his mother, Libby Horowitz P'56.

RUSSELL C. AND MELONEE A.R. HOROWITZ SCHOLARSHIP FUND  
(2002) Gift of Russell C. Horowitz '88 and Melonee A. Horowitz.

CHARLES EUGENE HUBER JR. M.D. SCHOLARSHIP FUND  
(1970) Bequest of Francis D. Huber '25 in memory of his brother, Charles E. Huber, Jr.

FREDERICK W. HUBER SCHOLARSHIP FUND  
(1924) Gift of Frederick W. Huber.

JOHN L. HUEMER SCHOLARSHIP FUND  
(2008) Bequest of Kathleen W. Huemer P'65 in memory of her son, John L. Huemer '65.

THE MICHAEL AND BETH HUGHES FAMILY ENDOWED SCHOLARSHIP FUND  
(2008) Gift of Michael Joseph and Beth Ann Hughes.

HUMANITIES SCHOLARSHIP FUND IN HONOR OF JACQUES BARZUN  
(1987) Gift of Vincent A. Carrozza '49 in honor of Jacques Barzun '27 °.

ALLEN HYMAN SCHOLARSHIP FUND  
(2005) Gift of Allen I. Hyman '55 and Valerie Ann Hyman P'85, P'88.

ANDREW HYMAN AND MOLLY CHREIN SCHOLARSHIP FUND  
(2007) Gift of Andrew D. Hyman '88.

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

ANTHONY M. IMPARATO, M.D. SCHOLARSHIP FUND  
(1988) Gift of Anthony M. Imparato '43.

ORRIN C. ISBELL FUND  
(1989) Bequest of Emily D. Isbell in memory of her husband, Orrin C. Isbell CC 1912.

MARTIN D. JACOBS MEMORIAL FUND  
(1987) Gift of Stephen Jacobs '75 in memory of his father, Martin D. Jacobs '25, P'75.

JACOBSON BERLINSKI FAMILY SCHOLARSHIP FUND  
(2011) Gift of Britta Wilson Jacobson '96.

JAFFE FAMILY SCHOLARSHIP FUND  
(1988) Gift of Henry Jaffe '27 °, P'88 in honor of his daughter, Rebecca Jaffe '88.

GEORGE M. JAFFIN SCHOLARSHIP FUND  
(1986) Gift of George M. Jaffin '24 °.

DOROTHEA JAMESON AND LEO M. HURVICH SCHOLARSHIP FUND  
(2011) Bequest of Leo M. Hurvich.

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

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

THE CLARENCE C. JOCHUM SCHOLARSHIP FUND  
(1999) Gift of Clare Kim Plumridge in memory of her father, Clarence C. Jochum '30.

FREDERICK R. JOHNSON FUND  
(1961) Gift of an anonymous donor in memory of Frederick R. Johnson.

RICK AND LEE JOHNSON MEMORIAL SCHOLARSHIP FUND  
(1987) Gift of Rick Johnson '71 ° in memory of his father Lee Johnson and later renamed in his memory by his wife, WeiWei Du '71 ♠.

AL JOLSON FUND  
(1962) Bequest of Al Jolson.

THEODORE H. JOSEPH CLASS OF 1898 GRADUATE ASSISTANCE FUND  
(1986) Bequest of Ruth G. Joseph in memory of her husband, Theodore H. Joseph CC 1896.

MIKE JUPKA, JR., MEMORIAL SCHOLARSHIP FUND  
(1982) Gift of various donors in memory of Mike Jupka '80 °.

THEODORE KAHAN SCHOLARSHIP FUND  
(1990) Gift of Robert L. Kahan '69 in memory of Theodore Kahan CC 1920, P'69.

ALAN R. KAHN FAMILY SCHOLARSHIP FUND  
(1999) Gift of Alan Russell Kahn '59, P'95.

PROCTOR WILLIAM E. KAHN SCHOLARSHIP FUND  
(1986) Gift of various donors in memory of William E. Kahn '78.

THE KAISER FAMILY SCHOLARSHIP  
(2010) Gift of Michael Gunther Kaiser and Michelle Estilo Kaiser '87.

SANDRA AND MICHAEL KAMEN SCHOLARSHIP FUND  
(2011) Gift of Michael W. Kamen '66, P'01.

VICTOR V. KAMINSKI III MEMORIAL SCHOLARSHIP FUND

(2002) Gift of various donors in memory of Victor V. Kaminski '79.

LAMONT AND LEAH KAPLAN SCHOLARSHIP FUND

(1984) Gift of Martin S. Kaplan '61, P'89, in honor of his parents, Lamont and Leah E. Kaplan P'61.

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

(2007) Gift of Arthur Henry '84 and Ruth Lori Kohn P'13.

RAVI KAPUR SCHOLARSHIP FUND

(1982) Gift of various donors in memory of Ravi Kapur '79.

JUDY AND JEANETTE KATEMAN MEMORIAL SCHOLARSHIP FUND

(1987) Gift of Paul R. Kateman '64, P'83, P89 in memory of his wife, Judy Kateman, and mother, Jeanette Kateman.

RALPH KEEN SCHOLARSHIP FUND

(2001) Gift of Ralph Keen '79.

ELLWOOD WADSWORTH KEMP, JR., COLUMBIA COLLEGE CLASS OF 1919 MEMORIAL SCHOLARSHIP FUND

(1990) Bequest of Morris Kemp '24 in memory of his brother, Ellwood W. Kemp CC 1919.

THE ROBERT F. KEMP CC'82 MEMORIAL SCHOLARSHIP FUND

(2003) Gift of various donors in the Class of 1982 in memory of Robert F. Kemp '82.

GRACE BEACHEY KEMPER FUND

(1962) Bequest of Grace Beachey Kemper in memory of her parents, Clement Beachey and Elizabeth Probasco Beachey.

SIGMUND MARSHALL KEMPNER SCHOLARSHIP FUND

(1980) Gift of various donors in honor of Sigmund Marshall Kempner CC 1919 ° for his 80th birthday.

MARGARETE E. KENNEDY ESTATE SCHOLARSHIP FUND

(2010) Bequest of Margarete E. Kennedy.

KERZNER SCHOLARSHIP FUND

(2011) Gift of Heather O'Brien Kerzner '91.

MOSSETTE AND HENRI KEYZER-ANDRE SCHOLARSHIP FUND

(1988) Gift of Henri and Mossette Keyzer-Andre.

SEILAI KHOO MEMORIAL SCHOLARSHIP FUND

(2001) Gift of Solomon Henriques Gayle '85 in memory of his fiancée, Seilai Khoo '86.

KIM FAMILY FUND

(2013) Gift of Sung Hoon Kim '90.

THE MARK AND ANLA CHENG KINGDON FUND  
(2005) Gift of Mark E. Kingdon '71, P'09, P'16 and Anla Cheng Kingdon P'09, P'16.

GRAYSON KIRK SCHOLARSHIP FUND

(1982) Gift of various donors in honor of Grayson Kirk '53 HON °.

KN SCHOLARSHIP FUND GIFT

(1995) Gift of Kallman Nashner °.

THE JEFFREY D. KNOWLES SCHOLARSHIP

(2011) Gift of Jeffrey D. Knowles '71, P'08.

LAWRENCE AND RUTH KOBRIN SCHOLARSHIP FUND

(1993) Gift of Lawrence A. Kobrin '54, P'92.

DR. RUTH M. KOCH SCHOLARSHIP FUND

(2006) Bequest of Ruth M. Koch.

HAROLD KORZENIK SCHOLARSHIP FUND

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

THE HAROLD AND ROSE KOVNER SCHOLARSHIP FUND

(2003) Gift of Rose Kovner ° in memory of her husband, Harold Kovner '23.

DAVID H. KRAFT SCHOLARSHIP FUND

(1995) Gift of Gilman Kraft '47 °.

ROBERT KRAFT FAMILY SCHOLARSHIP FUND

(1986) Gift of Robert K. Kraft '63, P'94.

KRAMER ENDOWED SCHOLARSHIP FUND

(1965) Gift of the Kramer Foundation.

MARCY AND JOSH KREVITT SCHOLARSHIP FUND

(1913) Gift of Josh Andrew Krevitt '89 and Marcy Nislow Krevitt.

THE KRISBERG FAMILY SCHOLARSHIP

(2006) Gift of Brian C. Krisberg '81, P'17.

JOSEPH WOOD KRUTCH SCHOLARSHIP FUND #2

(1973) Gift of Marcelle L. Krutch ° in memory of her husband, Joseph W. Krutch '54 HON.

RICK KURNIT AND DIANE KATZIN SCHOLARSHIP FUND

(2008) Gift of Richard A. Kurnit '72.

THE KUNG AND YEUNG SCHOLARSHIP FUND

(2011) Gift of Kenneth Chun Pong and Ann Yeung Kung P'11.

PAUL SAMUEL KURZWEIL SCHOLARSHIP FUNDS

(1996) Gift of Harvey Kurzweil '66, P'95, P'00.

LATINO AMERICAN ALUMNI ASSOCIATION OF  
COLUMBIA UNIVERSITY SCHOLARSHIP FUND  
(2009) Gift of various donors.

PREM LACHMAN SCHOLARSHIP FUND  
(2009) Gift of Prem A. Lachman '82 and Joyce Falini  
Lachman.

NORMAN JOSEPH LANDAU SCHOLARSHIP FUND  
(1999) Gift of Lisa Landau Carnoy '89 in memory of her  
father, Norman J. Landau P'89.

JERRY G. LANDAUER SCHOLARSHIP FUND  
(1981) Gift of various donors, and bequest of Jerry G.  
Landauer '53.

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

DENNIS H. AND SUSAN F. LANGER SCHOLARSHIP  
FUND  
(1997) Gift of Dennis H. Langer '71 and Susan F. Langer  
P'04, P'08.

DENNIS H. AND WILLIAM A.F. LANGER  
SCHOLARSHIP  
(2001) Gift of Gift of Dennis H. Langer '71 and Susan F.  
Langer P'04, P'08.

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

MARTHA C. LAPPAS SCHOLARSHIP FUND  
(1991) Bequest of Martha C. Lappas.

PETER I. B. LAVAN SCHOLARSHIP FUND  
(1983) Gift of Peter I.B. Lavan '15 °.

JONATHAN AND JEANNE LAVINE SCHOLARSHIP  
FUND  
(2011) Gift of Jonathan Scott Lavine '88, P'16, P'18.

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 Lebowitz °.

PAUL LAZARE SCHOLARSHIP FUND  
(1987) Gift of Paul L. Lazare '36 °.

HARRY R. LEA SCHOLARSHIP FUND  
(1993) Bequest of Harry R. Lea '25.

ESTELLE LEAVY SCHOLARSHIP FUND  
(1984) Bequest of Estelle Leavy.

THE LEE FAMILY SCHOLARSHIP FUND  
(2008) Gift of Jay-Hyun Lee P'08, P'13.

FRANK LAMPSON LEE SCHOLARSHIP FUND  
(1987) Gift of Frank H. Lee °, P'50 in memory of his son,  
Frank Lampson Lee '50.

GRANVILLE WHEELER LEE, SR., CLASS OF 1931,  
MEMORIAL SCHOLARSHIP FUND  
(1997) Gift of Granville Wheeler Lee Jr. and Mildred Kimble  
Lee '31 ◊ in memory of their father and husband respectively,  
Granville W. Lee '31.

KAI-FU AND SHEN-LING LEE SCHOLARSHIP FUND  
(2008) Gift of Kai-Fu Lee '83, P'12.

K.C. LEE SCHOLARSHIP FUND  
(2009) Gift of Rupert X. Li '84.

ERWIN H. LEIWANT SCHOLARSHIP FUND  
(1991) Gift of Irene K. Leiwant '41 ◊, P'71, P'74 in memory  
of her husband, Erwin H. Leiwant '41, P'71, P'74, on the  
fiftieth anniversary of his graduation.

HAROLD LEVENTHAL SCHOLARSHIP FUND  
(2010) Gift of Peter Buscemi '69 and Judith A. Miller.

THE LEVINE FAMILY SCHOLARSHIP FUND  
(2004) Gift Joseph H. Levine '76 and Karen Levine P'07.

LEONARD LEVINE SCHOLARSHIP FUND  
(1984) Gift of Rachel Levine ° in memory of her husband,  
Leonard Levine '21.

JOHN TAYLOR LEWIS SCHOLARSHIP FUND  
(1979) Gift of various donors in memory of John T. Lewis  
'74.

ROBERT D. LILLEY MEMORIAL SCHOLARSHIP AND  
FELLOWSHIP FUND  
(1988) Gift of various donors in memory of Robert D. Lilley  
'33, '81 HON.

SALLY LIPPER MEMORIAL SCHOLARSHIP  
(1993) Gift of Kenneth Lipper '62 in memory of his mother,  
Sally Lipper P'62.

LOU LITTLE SCHOLARSHIP FUND  
(1979) Gift of various donors in honor of Lou Little.

CATHERINE LIVINGSTON AND FRANK GORDON  
SCHOLARSHIP FUND  
(1998) Bequest of James L. Gordon '31.

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

MARGARET M. AND DANIEL S. LOEB SCHOLARSHIP  
ENDOWMENT FUND  
(2010) Gift of Daniel S. Loeb '83 and Margaret Loeb.



JAMES J. AND JOVIN C. LOMBARDO SCHOLARSHIP FUND

(1996) Gift of James Jovin Lombardo '71 and Jovin C. Lombardo '61, P'04, P'06.

FRANK AND VICTOR LOPEZ-BALBOA SCHOLARSHIP FUND

(2007) Gift of Francisco Javier Lopez-Balboa '82, P'13, P'15 and Victor M. Lopez-Balboa '82, P'14 in honor of the twenty-fifth anniversary of their graduation.

THE BENJAMIN B. AND BETSY A. LOPATA SCHOLARSHIP FUND

(2000) Gift of Benjamin B. Lopata '72, P'06, P'08.

LORENZO FAMILY SCHOLARSHIP FUND

(1992) Gift of Francisco A. Lorenzo '61.

OLEGARIO LORENZO MEMORIAL SCHOLARSHIP FUND

(1986) Gift of Francisco A. Lorenzo '61, in memory of his father, Olegario Lorenzo P'61.

IRWIN AND MARIANETTE L. LOWELL SCHOLARSHIP FUND

(2004) Bequest of Irwin E. Lowell '27.

STANLEY B. AND JUDITH M. LUBMAN SCHOLARSHIP FUND

(1998) Gift of Stanley B. Lubman '55, and Judith M. Lubman.

A. LEONARD LUHBY CLASS OF 1938 SCHOLARSHIP FUND

(2004) Gift of Sarah Luhby '38 ♀, P'92 in memory of her husband, A. Leonard Luhby '38, P'92.

LUI FAMILY SCHOLARSHIP

(2011) Gift of Frederick Lui P'15.

LYON STUDENT SCHOLARSHIP FUND FOR COLUMBIA COLLEGE

(1962) Bequest of John Henry Hobart Lyon CC 1897 in memory of his father, Sylvanus Lyon.

THOMAS MACIOCE SCHOLARSHIP FUND

(1986) Gift of Edwin W. Rickert '36 ♂ and various donors in honor of Thomas M. Macioce '39.

M&BG SCHOLARSHIP FUND

(2006) Gift of an anonymous donor.

MALIN-SERLE FAMILY SCHOLARSHIP FUND

(2011) Gift of Ira Brett Malin '75 and Janet Barbara Serle P'11, P'17.

DONALD LEE MARGOLIS SCHOLARSHIP FUND

(1988) Gift of Donald L. Margolis '63.

JAMES, DONALD, AND EMILY MARGOLIS SCHOLARSHIP FUND

(1993) Gift of Donald L. Margolis '63.

HERBERT MARK '42 MEMORIAL SCHOLARSHIP FUND

(2007) Gift of various donors in memory of Herbert Mark '42.

DR. JEROME & CORA MARKS SCHOLARSHIP FUND

(2012) Bequest of Cora M. Marks.

MICHAEL E. MARTOCCI SCHOLARSHIP FUND

(2000) Bequest of Helen Martocci in memory of her son, Michael Martocci '58.

THE AARON LEO MAYER SCHOLARSHIP FUND

(2007) Bequest of Lillian C. Mayer P'56.

BARBARA MAZUR SCHOLARSHIP FUND

(1999) Gift of Marc B. '81 P'12, P'15 and Ilana Mazur in memory of their mother, Barbara Mazur.

LOUIS K. MCCLYMONDS SCHOLARSHIP FUND

(1926) Bequest of Annie M. McClymonds in memory of her husband, Louis K. McClymonds.

DOUGLAS H. MCCORKINDALE SCHOLARSHIP FUND

(1987) Gift of Douglas H. McCorkindale '61.

PAUL C. MCCORMICK SCHOLARSHIP FUND

(2010) Gift of Paul Christian McCormick '78, P'10, P'14.

WILLIAM MCDAVID SCHOLARSHIP FUND

(2008) Gift of William H. McDavid, Class of 1968, P'08, P'10, P'14.

NICHOLAS MCDOWELL MCKNIGHT SCHOLARSHIP FUND

(1962) Bequest of Carl J. McKnight.

KATHLEEN MCDERMOTT SCHOLARSHIP FUND

(2011) Gift of various donors in memory of Kathleen McDermott.

PATRICK AND YVETTE MCGARRIGLE COLLEGE SCHOLARSHIP

(2011) Gift of Patrick McGarrigle '86.

SPENCER J. MCGRADY SCHOLARSHIP FUND

(1994) Bequest of Spencer J. McGrady '39.

MABEL C. MEAD FUND

(1958) Bequest of Mabel C. Mead.

RAPHAEL MEISELS SCHOLARSHIP FUND

(1985) Gift of Raphael Meisels '21 ♂.



JAMES L. MELCHER AND DR. APRIL ANN BENASICH SCHOLARSHIP FUND  
(2007) Gift of James L. Melcher '61, P'90.

SAMUEL AND BLANCHE MENDELSON MEMORIAL SCHOLARSHIP FUND  
(1983) Gift of Laurans A. Mendelson '60, P'87, P'89.

MESHEL FAMILY SCHOLARSHIP FUND  
(2011) Gift of Adam Reid Meshel '92, P'18.

ASENATH KENYON AND DUNCAN MERRIWETHER SCHOLARSHIP FUND  
(1991) Bequest of Duncan Merriwether '28.

LILLIAN S. MICHAELSON SCHOLARSHIP FUND  
(1989) Gift of Alvin S. Michaelson '60.

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

THE IRA L. MILLER FAMILY SCHOLARSHIP FUND  
(2004) Gift of Edward Joseph Miller '73, Howard Miller '76, Robert J. Miller '76 and Stephen Miller '69.

MILLER-HEDIN FAMILY SCHOLARSHIP  
(2008) Gift of Evan Miller '78.

MAX MILLER SCHOLARSHIP FUND  
(1989) Gift of Warren R. Stern '74 in memory of his wife's grandfather, Maxim D. Miller.

MEREDITH G. MILSTEIN SCHOLARSHIP FUND  
(2011) Gift of Meredith G. Milstein '09.

PHILIP AND CHERYL MILSTEIN SCHOLARSHIP FUND  
(1987) Gift of Philip L. Milstein '71 and Cheryl S. Milstein P'09, P'10.

SEYMOUR MILSTEIN SCHOLARSHIP FUND  
(2002) Gift of Philip Milstein '71, P'09, P'10.

THOMAS AND JOY MISTELE SCHOLARSHIP FUND  
(2008) Gift of Thomas M. and C. Joy Mistele P'10.

JOHN P. MITCHEL MEMORIAL FUND  
(1940) Bequest of Mary Purroy Mitchel in memory of her husband, John Purroy Mitchel CC 1899.

MOFFAT SCHOLARSHIP FUND  
(1862) Gift of William B. Moffat.

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

ELIZABETH WILMA MONTGOMERY SCHOLARSHIP FUND  
(1986) Gift of William E. Collin '24 °.

DR. ROYAL M. MONTGOMERY SCHOLARSHIP FUND  
(1992) Gift of Maxine C. Montgomery ° in honor of her husband, Royal M. Montgomery '28 °.

SIDNEY MORGENBESSER MEMORIAL FUND  
(2005) Gift of various donors in memory of Sidney Morgenbesser.

JAMES P. MORRISON SCHOLARSHIP FUND  
(1973) Gift of James P. Morrison '30 °, P'63 ° in memory of his son, Peter N. Morrison '63.

DAISY IRENE LUTZ MORSE MEMORIAL FUND  
(2005) Bequest of Herbert C. and Elizabeth B. Morse.

CLARA W. MOSSLER SCHOLARSHIP FUND  
(1999) Bequest of Harold M. Mossler in memory of his mother, Clara W. Mossler.

THOMAS L. MOUNT SCHOLARSHIP FUND  
(2009) Bequest of Thomas L. Mount '30.

MUKHERJEE-RUSSELL MEMORIAL FUND  
(2010) Gift of Tanmoy Mukherjee '86.

PROFESSOR HERMAN J. MULLER SCHOLARSHIP FUND  
(2008) Bequest of Charles S. Lyons.

GLADYS H. MUÑOZ SCHOLARSHIP FUND  
(1996) Gift of Carlos R. Muñoz '57.

STAN MUSIAL SCHOLARSHIP FUND  
(1962) Gift of various donors in honor of Stan Musial.

THOMAS A. NACLERIO SCHOLARSHIP FUND  
(2000) Bequest of Thomas A. Naclerio '33.

ALI NAMVAR SCHOLARSHIP FUND  
(2011) Gift of Ali Namvar '91.

JON NARCUS SCHOLARSHIP FUND  
(2004) Gift of John S. Freidin '62, Burton Lehman '62 and Jerry I. Speyer '62, P'92.

AMERICO C. NARDIS SCHOLARSHIP FUND  
(2008) Gift of Americo Carmine Nardis '98.

MURRAY AND BELLE NATHAN SCHOLARSHIP ENDOWMENT  
(2011) Bequest of Murray L. Nathan '34 and Belle C. Nathan.

NAWN FAMILY SCHOLARSHIP FUND  
(2013) Gift of Christopher M. and Lori D. Nawn P'16.

THOMAS B. NEFF SCHOLARSHIP FUND  
(1969) Gift of Thomas B. Neff '51 °.

THE CHARLES E. AND DOROTHY C. NEWLON  
SCHOLARSHIP FUND

(2010) Bequest of Charles E. Newlon '41.

JEROME A. NEWMAN SCHOLARSHIP FUND

(1956) Gift of Jerome A. Newman '17 ° in honor of the fortieth anniversary of his graduation.

NG TENG FONG SCHOLARSHIP

(2011) Gift of Daryl Win-Kong Ng '01.

NG TENG FONG SCHOLARSHIP FUND

(2005) Gift of Robert Chee-Siong Ng P'01, P'12, P'14.

LOUIS AND MARINA NICHOLAS SCHOLARSHIP  
FUND

(1998) Gift of Socrates Nicholas '56.

9/11 MEMORIAL FUND SCHOLARSHIP

(2002) Gift of Robert Berne '60, Mark E. Kingdon '71, P'09, P'16, Philip L. Milstein '71, P'09, P'10, Richard E. Witten '75, P'10 and various donors in memory of Richard A. Aronow '75, Robert M. Murach '78, John B. Fiorito '82, Seilai Khoo '86, Brian Patrick Williams '94, Joseph A. Della Pietra '99, Brooke Alexandra Jackman '00, and Tyler Victor Ugolyn '01.

ADRIANE NOCCO SCHOLARSHIP FUND

(2010) Gift of Frank Paul Nocco '85 in honor of his mother, Adriane G. Nocco P'85.

DAVID NORR, CLASS OF 1943 SCHOLARSHIP FUND

(1981) Gift of David Norr '43 °.

NORRY FAMILY SCHOLARSHIP FUND FOR THE  
COLLEGE

(1984) Gift of Neil J. Norry '59 °, P'85 in honor of the twenty-fifth anniversary of his graduation.

DOROTHY O'BRIEN AND FERDINAND J.  
SIEGHARDT SCHOLARSHIP FUND

(1977) Bequest of Ferdinand J. Sieghardt.

ALFRED OGDEN FUND

(1989) Bequest of Alfred Odgen CC 1909.

SANDRA A. AND LEWIS P. (CC'36) OGLE  
SCHOLARSHIP FUND

(2004) Bequest of Lewis P. '36 and Sandra A. Ogle.

GIDEON H. OPPENHEIMER SCHOLARSHIP FUND

(1971) Bequest of Gideon H. Oppenheimer '47.

GEORGE M. ORPHANOS SCHOLARSHIP FUND

(2007) Bequest of George M. Orphanos '59.

BLANCHE WITTES OSHEROV SCHOLARSHIP FUND

(2004) Bequest of Blanche Wittes Osharov.

OZ FAMILY SCHOLARSHIP FUND

(2009) Gift of Mehmet C. and Lisa Jane Oz P'12.

OZALTIN FAMILY SCHOLARSHIP FUND

(2010) Gift of Nuri Ozaltin.

PACKER-BAYLISS SCHOLARS

(2001) Gift of M. Jerome and Marie Packer in honor of Geoffrey C. Bayliss '82.

STELIOS AND ESPERANZA PAPADOPOULOS  
SCHOLARSHIP FUND

(2005) Gift of Stelios and Esperanza Papadopoulos P'07.

EMANUEL M. PAPPER AND PATRICIA M.  
SCHOLARSHIP FUND

(2002) Bequest of Emanuel M. Papper '35, '88 HON.

MAX PAPPER SCHOLARSHIP FUND

(1961) Gift of Lillian M. Jaffe, Emanuel M. Papper '35, '88 HON °, and Salomon Papper '42 °.

JOHN AND MINNIE PARKER NATIONAL  
SCHOLARSHIP FUND GIFT

(1960) Gift of Minnie Parker Charitable Trust.

HERBERT AND JEANETTE PEARL SCHOLARSHIP  
FUND

(1997) Gift of Richard E. Pearl '69.

ROBERT I. PEARLMAN SCHOLARSHIP FUND - CC

(1989) Gift of Robert I. Pearlman '55.

B. DAVID AND ROSANN PECK SCHOLARSHIP FUND

(1989) Gift of Barry David Peck '59, P'91.

ROBERT L. PELZ SCHOLARSHIP FUND

(1989) Gift of Robert L. Pelz '39 °.

ANTHONY PENALE SCHOLARSHIP FUND

(1996) Bequest of Anthony G. Penale.

HERBERT C. PENTZ SCHOLARSHIP FUND

(2002) Bequest of Herbert C. Pentz '22.

DR. M. MURRAY AND LILLIAN PESHKIN  
SCHOLARSHIP FUND

(1991) Bequest of Lillian R. Peshkin.

DR. NIS A. PETERSEN SCHOLARSHIP FUND

(2008) Bequest of Dr. Nis Adolph Petersen '51.

WILLIAM E. PETERSEN SCHOLARSHIP FUND

(1992) Gift of William E. Petersen '27, P'68 °.

THE PETITO FAMILY SCHOLARSHIP FUND

(2007) Gift of Dominic Anthony Petito '77 and Paula Kessler Petito P'13.

MARY ELLEN AND BRUCE EBEN PINDYCK  
SCHOLARSHIP FUND

(1981) Gift of Bruce Eben Pindyck '67 and Mary Ellen Pindyck P'03.

FRANK R. PITT SCHOLARSHIP FUND  
(1967) Gift of Frank R. Pitt '28 °.

FRANK R. PITT SCHOLARSHIP FUND  
(2000) Bequest of Frank R. Pitt '28.

PLANALP TREVOR FAMILY SCHOLARSHIP FUND  
(2010) Gift of Stephen S. Trevor '86 and Ronnie Dell Planalp.

ELVIRA AND HAROLD POLLACK MEMORIAL SCHOLARSHIP FUND  
(1998) Bequest of Roy Howard Pollack in memory of his parents, Harold and Elvira Pollack.

FRED P. POMERANTZ FOUNDATION SCHOLARSHIP FUND  
(1965) Gift of Fred P. Pomerantz.

LOUIS JOHN POPPER SCHOLARSHIP FUND  
(1991) Bequest of Louis J. Popper CC 1918.

PETER POUNCEY SCHOLARSHIP FUND  
(1992) Gift of Daniel L. Dolgin '74 in honor of Peter R. Pouncey P'00.

LEONARD PRICE SCHOLARSHIP FUND  
(2006) Bequest of Leonard Price '28.

MARIE, CHARLES AND WALTER PROBST MEMORIAL SCHOLARSHIP FUND  
(1968) Bequest of Marie Probst.

PULITZER SCHOLARS FUND  
(1958) Gift of former Pulitzer Scholars.

JOSEPH PULITZER SCHOLARSHIP FUND A  
(1902) Gift of Joseph Pulitzer '52 HON °.

JOSEPH PULITZER SCHOLARSHIP FUND B  
(1959) Bequest of Joseph Pulitzer '52 HON °.

QUANDT FAMILY FUND  
(2012) Gift of Gabriele Quandt P'12 and Leonard Langenscheidt '12.

ROBERT T. AND MARILYN L. QUITTMAYER SCHOLARSHIP FUND  
(1986) Gift of Robert T. Quittmeyer '41 ° in honor of the fiftieth anniversary of his graduation.

STANLEY A. AND BARBARA B. RABIN SCHOLARSHIP FUND  
(2007) Gift of Stanley A. Rabin '58 and Barbara B. Rabin.

THOMAS D. RABIN SCHOLARSHIP FUND  
(1997) Gift of I. Stephen Rabin '55 and Ruth H. Rabin in memory of their son, Thomas Daniel Rabin.

RAPAPORT SCHOLARSHIP FUND IN MEMORY OF HENRY N. RAPAPORT, CC 1925, LAW 1927  
(1985) Gift of Michael S. Rapaport '64, Peter A. Rapaport, David A.H. Rapaport '69, Robert D. Rapaport, Martin S. Rapaport '62, P'09, Richard A. Rapaport '96 and M. Murray Peshkin °.

BROOKE AND RICHARD RAPAPORT SCHOLARSHIP FUND  
(1999) Gift of Richard A. Rapaport '69.

PROFESSOR WILLIAM H. REINMUTH SCHOLARSHIP FUND  
(1988) Gift of Curtis Instruments in memory of William H. Reinmuth, P'89.

ROSE AND SAM REISS SCHOLARSHIP FUND  
(1987) Gift of Robert S. Reiss '52, in honor of his parents, Sam and Rose Reiss P'52.

HUBERT M. RELYEA SCHOLARSHIP FUND  
(1993) Bequest of Hubert M. Relyea '31.

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

PETER C. RITCHIE, JR., SCHOLARSHIP FUND  
(1939) Bequest of Virginia J. Ritchie.

GERALD AND MAY ELLEN RITTER MEMORIAL SCHOLARSHIP FUND  
(1986) Gift of Gerald and May Ellen Ritter Memorial Fund.

GERALD AND MAY ELLEN RITTER PRESIDENTIAL FELLOWSHIP FUND  
(1981) Gift of Gerald and May Ellen Ritter Memorial Fund.

EDWIN ROBBINS CC 1953 RESIDENTIAL SCHOLARSHIP FUND  
(1985) Gift of Edwin Robbins '53.

EDWIN ROBBINS CC 1953 RESIDENTIAL SCHOLARSHIP FUND II  
(2014) Gift of Edwin Robbins '53.

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

DR. DUDLEY F. ROCHESTER SCHOLARSHIP FUND  
(1998) Gift of Dudley F. Rochester '50.

RODIN LEVINE FAMILY SCHOLARSHIP  
(2011) Gift of John D. Rodin '97 and Rachel Levine Rodin '97.

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

HOWARD MALCOLM ROGERS SCHOLARSHIP FUND  
(1925) Bequest of Henrietta Rogers.

ARTHUR G. ROSEN FAMILY SCHOLARSHIP FUND  
(1991) Gift of Arthur G. Rosen '65.

PROFESSOR JOHN D. ROSENBERG SCHOLARSHIP FUND  
(2008) Gift of John A. Carey '71 in honor of John D. Rosenberg '50, P'97.

IDA ROSENBERG SCHOLARSHIP FUND  
(1999) Gift of Robert Jay Rosenberg '67, P'99, Marcia R. Fox P'99 and Lauren Rosenberg Gershell '99.

GERALD E. ROSENBERGER SCHOLARSHIP FUND  
(1967) Gift of various donors in memory of Gerald E. Rosenberger.

DR. LOUIS A. AND BEATRICE B. ROSENBLUM SCHOLARSHIP FUND  
(2002) Bequest of Beatrice Rosenblum Vare.

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

ANNA AND AARON ROSENSHINE SCHOLARSHIP FUND  
(1989) Gift of Allen G. Rosenshine '59.

LEWIS A. ROSENTHAL SCHOLARSHIP FUND  
(1951) Gift of William Rosenthal P'28 in memory of his son, Lewis A. Rosenthal '28.

KATHLEEN ROSKOT MEMORIAL SCHOLARSHIP FUND  
(2005) Gift of various donors in memory of Kathleen Roskot '02.

EUGENE T. ROSSIDES SCHOLARSHIP FUND  
(1996) Gift of Eugene T. Rossides '49, P'84.

SAMUEL H. ROTHFELD CC 1934 SCHOLARSHIP FUND  
(1995) Gift of Michael B. Rothfeld '69, P'06, P'08 in memory of his father, Samuel H. Rothfeld '34, P'69.

DAVID H. ROUS SCHOLARSHIP FUND  
(1973) Gift of various donors in memory of David H. Rous '25.

JOSEPH RUBIN SCHOLARSHIP FUND  
(1975) Gift of Harvey Rubin '54, P'82, P'87 in memory of his father, Joseph Rubin P'54.

SAMUEL RUDIN SCHOLARSHIP FUND  
(2000) Gift of Paul A. Marks '46 and Joan H. Marks.

GEORGE RUPP SCHOLARSHIP FUND  
(1994) Gift of the Henry and Lucy Moses Fund, Inc. in honor of George Rupp '93 HON.

PETER F. RUSSELL SCHOLARSHIP FUND  
(1987) Gift of various donors in memory of Peter F. Russell '62.

THE RICHARD RUZIKA SCHOLARSHIP FUND  
(2000) Gift of Richard M. Ruzika '81 °, P'16.

THE FRIENDS OF RICH RUZIKA SCHOLARSHIP FUND  
(2013) Gift of various donors in memory of Richard M. Ruzika '81 °, P'16.

DAVID G. SACKS SCHOLARSHIP FUND  
(2005) Bequest of David G. Sacks '44.

EUGENE SALBERG SCHOLARSHIP FUND  
(1964) Bequest of Eugene Salberg.

EVAN C. AND EVAN T. SALMON SCHOLARSHIP FUND  
(2003) Bequest of Avis D. Salmon.

ARNOLD A. SALTZMAN SCHOLARSHIP FUND  
(1986) Gift of Arnold A. Saltzman '36 °, P'67, P'69.

ARNOLD A. SALTZMAN SCHOLARSHIP FUND FOR DOUBLE DISCOVERY PROGRAM  
(2006) Gift of Arnold Saltzman '36 °, P'67, P'69.

ERIC F. SALTZMAN SCHOLARSHIP FUND  
(1986) Gift of Eric F. Saltzman '69, P'11.

SAMUELS FAMILY SCHOLARSHIP FUND  
(2009) Gift of an anonymous donor.

SANDELMAN FAMILY SCHOLARSHIP FUND  
(2002) Gift of Jonathan E. Sandelman P'13 and Corrie Mark Sandelman P'13.

HERB AND PEARL SANDICK SCHOLARSHIP FUND  
(2010) Gift of Herbert Sandick '43 °, P'70.

AARON AND JAMES SATLOFF SCHOLARSHIP FUND  
(1996) Gift of James Eliot Satloff '84 in honor of his father, Aaron Satloff '56, P'84.

SATOW FAMILY SCHOLARSHIP FUND  
(1988) Gift of Phillip M. Satow '63, P'88, P'96.

ALEXANDER SAUNDERS SCHOLARSHIP FUND  
(1922) Bequest of Mary Ellen Saunders in memory of her husband, Alexander Saunders.

LESLIE M. SAUNDERS SCHOLARSHIP FUND  
(1916) Bequest of Alexander Saunders.



## SCANDINAVIAN SCHOLARSHIP FOR SCIENTIFIC RESEARCH

(1986) Gift of an anonymous donor.

## PETER K. SCATURRO SCHOLARSHIP FUND

(1997) Gift of Peter K. Scaturro.

## MORRIS A. AND ALMA B. SCHAPIRO SCHOLARSHIP FUND

(1999) Gift of Alma and Morris Schapiro Fund.

## SCHENLEY INDUSTRIES, INC., SCHOLARSHIP FUND

(1962) Gift of Schenley Industries Inc. in memory of Ralph T. Heymsfeld '27, P'65.

## JONATHAN SCHILLER SCHOLARSHIP FUND

(2011) Gift of Jonathan D Schiller, Esq., '69, P'01, P'06.

## SCHLUMBERGER FOUNDATION SCHOLARSHIP FUND

(1984) Gift of the Schlumberger Foundation.

## IRVING SCHMEZEL SCHOLARSHIP FUND

(1965) Gift of Claire L. Schmezel ° in memory of her husband, Irving Schmezel.

## JOHN NORBERT SCHMITT SCHOLARSHIP FUND

(2011) Bequest of John Norbert Schmitt '32.

## SAMUEL SCHOLNICK SCHOLARSHIP FUND

(2001) Gift of Arnold R. Tolkin '54, P'79, P'82.

## SAMUEL AND ANNA SCHREIBER SCHOLARSHIP FUND

(1987) Gift of Leonard I. Schreiber '35 °.

## 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 Gertrude Schweitzer ° P'60, in memory of her husband William P. Schweitzer '21, P'60.

## MARY H. SCRANTON SCHOLARSHIP FUND

(1936) Bequest of Mary N. Scranton.

## LEONARD T. SCULLY SCHOLARSHIP FUND

(1957) Gift by the Estate of Millicent W. Smyth.

## FRANK LINWOOD AND GRACE FARRINGTON SEALY FUND

(1989) Bequest of Donald F. Sealy CC 1918.

## THE ALBERT A. SEGNA MEMORIAL SCHOLARSHIP FUND

(2003) Gift of Rudy A. Segna '81, P'08, P'09.

## KARL LUDWIG SELIG SCHOLARSHIP FUND

(2001) Gift of Thomas H. Glocer '81.

## THERESA PRINCE SEMON SCHOLARSHIP FUND

(1953) Gift of the Board of Trustees of the Good Neighbor Federation.

## MR. AND MRS. PING LING SENG SCHOLARSHIP FUND

(1986) Gift of Peter Seng '63, P'87 in honor of his parents, Mr. and Mrs. Ping Ling Seng.

## ARTHUR J. AND KATHERINE FLINT SHADEK SCHOLARSHIP FUND

(1970) Gift of Arthur J. Shadek °, P'74 and Katherine F. Shadek.

## NORMAN SHAPIRO SCHOLARSHIP FUND

(1977) Gift of Eleanor Redman Shapiro.

## REUBEN SHAPIRO SCHOLARSHIP FUND

(2010) Gift of Robert J. Grey '72 and Susan Grey.

## SOLOMON AND DORA MONNESS SHAPIRO SCHOLARSHIP FUND

(1952) Bequest of Dora Monness Shapiro.

## GEORGE SHAW SCHOLARSHIP FUND

(1988) Gift of various donors in memory of George D. Shaw '53.

## JAMES PATRICK SHENTON SCHOLARSHIP FUND

(1998) Gift of Socrates Nicholas '56.

## WILLIAM BROCK SHOEMAKER FUND

(1908) Gifts of Henry F. Shoemaker and Ella de Peyster Shoemaker.

## JESSE SIEGEL SCHOLARSHIP FUND

(1984) Gift of Jesse S. Siegel '49 °.

## SIDNEY J. SILBERMAN SCHOLARSHIP FUND AT COLUMBIA COLLEGE

(1998) Gift of Sidney J. Silberman '42 °.

## RONALD K. SIMONS CC '82 SCHOLARSHIP

(2003) Gift of Ronald K. Simons '82.

## SINGH FAMILY SCHOLARSHIP FUND

(2001) Gift of Ravi M. Singh '88.

## MARVIN SIROT SCHOLARSHIP FUND

(1984) Gift of Margaret Sirot '56 ♠ and their children in memory of Marvin Sirot '56.

## SAMUEL T. SKIDMORE SCHOLARSHIP FUND

(1990) Bequest of Samuel T. Skidmore.

## JOSEPH M. SKRYPSKI SCHOLARSHIP FUND

(2007) Bequest of Joseph M. Skrypski '39.



## LAWRENCE SLAUGHTER SCHOLARSHIP FUND

(2010) Gift of Lawrence D. Slaughter '85.

## ERIC V. SMITH SCHOLARSHIP FUND

(1994) Gift of Blair W. Smith and various donors in memory of Eric Vaughan Smith '88.

## GLORIA KAUFMAN KLEIN SMITH SCHOLARSHIP FUND

(2009) Bequest of Gloria K. Smith.

## DAVID W. SMYTH SCHOLARSHIP FUND

(1926) Gift of David W. Smyth °.

## SOLENDER FAMILY FUND

(2011) Gift of Michael Samuel Solender '86, P'17.

## JOSEPH SOLOMON PRESIDENTIAL SCHOLARS AND FELLOWS FUND

(1983) Bequest of Julius C. Levi via the Laura Boulton Trust.

## HERBERT B. SOROCA SCHOLARSHIP FUND

(1990) Gift of Herbert B. Soroca '63.

## SPINGARN FAMILY SCHOLARSHIP FUND

(1990) Gift of James L. Spingarn '62, P'89.

## ARTHUR B. SPINGARN SCHOLARSHIP FUND

(1993) Bequest of Arthur B. Spingarn CC1897.

## SUSTAINABLE DEVELOPMENT SCHOLARSHIP ENDOWMENT FUND

(2010) Gift of Joseph H. Ellis '64 and Barbara Ellis.

## LISA AND DAVID STANTON FAMILY SCHOLARSHIP

(2011) Gift of David B. Stanton '77, P'09, P'11.

## C.V. STARR SCHOLARSHIP FUND AT COLUMBIA UNIVERSITY

(2004) Gift of C.V. Starr Foundation.

## HARRISON R. AND EDNA L. STEEVES SCHOLARSHIP FUND

(1995) Gift of Edna L. Steeves.

## ALAN AND RUTH STEIN SCHOLARSHIP FUND

(1986) Gift of Alan L. Stein '52 and Ruth S. Stein.

## ALAN W. STEINBERG SCHOLARSHIP FUND

(1990) Gift of Alan W. Steinberg '48 and Suzanne Steinberg.

## MRS. RICHARD STEINSCHNEIDER SCHOLARSHIP FUND

(1958) Gift of Richard Steinschneider CC 1919 ° and Marie Rowan Steinschneider °.

## MICHAEL D. STEPHENS SCHOLARSHIP FUND

(2002) Gift of Michael D. Stephens '66.

## HERBERT B. STERN SCHOLARSHIP FUND

(1997) Gift of Herbert Barry Stern '59, P'07.

## HELEN M.C. AND J. EDWARD STERN BIO-MEDICAL SCHOLARSHIP FUND

(1996) Gift of 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) Gift of Robert S. Stone '59, P'91, Chester I. Stone '67 and Phyllis Beth Stone '91.

## LUDWIG STROSS SCHOLARSHIP FUND

(1943) Gift of Ines Stross in memory of her husband, Ludwig Stross.

## ARTHUR HAYS SULZBERGER SCHOLARSHIP FUND

(1963) Gift of Arthur Hays Sulzberger CC 1913, '59 HON °, P'51.

## SOLON E. SUMMERFIELD FOUNDATION INC., SCHOLARSHIP FUND

(1956) Gift of the Solon E. Summerfield Foundation, Inc.

## BERNARD AND MARJORIE SUNSHINE SCHOLARSHIP

(2002) Gift of Bernard Sunshine '46 and Marjorie Sunshine P'79.

## SWERGOLD FAMILY SCHOLARSHIP FUND

(1990) Gift of Leopold Swergold '62.

## ANNA WARE AND MACRAE SYKES SCHOLARSHIP FUND

(1963) Gift of Macrae Sykes '33 ° in honor of his mother, Anna G. Collins ° P'33 °.

## ROBERT J. SZARNICKI FAMILY SCHOLARSHIP FUND

(2000) Gift of Robert J. Szarnicki '65.

## DANIEL TAMKIN AND CINDY CARDINAL SCHOLARSHIP FUND

(2009) Gift of Daniel Tamkin '81 and Lucinda M. Cardinal P'12.

## CHANG CHAN YUK PING SCHOLARSHIP FUND

(2011) Gift of Eric Mang Pui and Pamela Tang P'09.

## THE ANGELO TARALLO MEMORIAL SCHOLARSHIP FUND

(2005) Gift of Patricia Tarallo '61 ◊.

## ABRAHAM TAUB SCHOLARSHIP FUND

(1991) Bequest of Abraham Taub.

## WALLACE TAYLOR MEMORIAL SCHOLARSHIP FUND

(1992) Gift of Sachems alumni.

WILLIAM TOWSON TAYLOR SCHOLARSHIP FUND  
(1976) Bequest of William T. Taylor '21 and gift of various donors in his memory.

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

TEPLER FAMILY SCHOLARSHIP FUND  
(2013) Gift of Isidore Tepler '76, P'14.

FRANKLIN A. THOMAS SCHOLARSHIP FUND  
(2008) Gift of Franklin A. Thomas '56, '79 HON.

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

THE 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) Gift of Jeffrey D. Tolkin '79 and Laurie J. Tolkin.

LILLIAN AND TRYGVE H. TONNESSEN SCHOLARSHIP FUND  
(1989) Gift of Trygve H. Tonnessen '39 and Lillian S. Tonnessen °.

DELOITTE AND TOUCHE SCHOLARSHIP GIFT  
(2003) Gift of various donors.

GRACE C. TOWNSEND SCHOLARSHIP FUND  
(1940) Bequest of Grace C. Townsend.

LOTTIE A. TRIPP SCHOLARSHIP FUND  
(1979) Bequest of W. Arthur Tripp CC 1909.

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

TRUST BRIDGE PARTNERS SCHOLARSHIP FUND  
(2009) Gift of Shujun Li.

KYRIAKOS TSAKOPOULOS SCHOLARSHIP FUND IN HONOR OF EUGENE ROSSIDES  
(2005) Gift of Kyriakos Tsakopoulos '93.

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

ARTHUR S. TWITCHELL SCHOLARSHIP FUND  
(1995) Bequest of Arthur C. Twitchell, Jr.

US STEEL SCHOLARSHIP FUND  
(2002) Gift of USX.

JOHN AND LOUISE SMITH VALENTE FUND  
(1969) Gift of John and Louise Valente.

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

IVAN B. VEIT ENDOWMENT FUND  
(2005) Bequest of Ivan B. Veit '28.

SIGMUND AND MARY VIOLIN SCHOLARSHIP FUND  
(1996) Gift of George A. Violin '63.

MARTIN AND SELMA VIRSOTSKY SCHOLARSHIP FUND  
(2012) Bequest of Martin Virsotsky.

VISA FINANCIAL AID ENDOWMENT FUND  
(1994) Proceeds from VISA credit card receipts.

WILLIAM F. VOELKER MEMORIAL SCHOLARSHIP FUND  
(1976) Bequest of William F. Voelker '42 and gift of various donors in his memory.

H. EDWARD VOLLMERS MEMORIAL SCHOLARSHIP FUND  
(1976) Gift of various donors in memory of H. Edward Vollmers '20.

FRANCES AND GUSTAVE VON GROSCHWITZ SCHOLARSHIP FUND IN ART HISTORY  
(1991) Bequest of Gustave von Groschwitz '26.

LEO J. WALSH MEMORIAL SCHOLARSHIP FUND  
(2006) Bequest of Leo J. Walsh '53.

WANG FAMILY SCHOLARSHIP FUND  
(2009) Gift of Philip Pei-Fan Wang '70, P'18.

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

THE WARREN FAMILY SCHOLARSHIP FUND  
(2005) Gift of Irwin H. Warren '71.

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

GEORGE WASCHECK SCHOLARSHIP FUND  
(1990) Gift of George E. Wascheck '24.

MORRIS W. WATKINS SCHOLARSHIP FUND  
(1987) Gift of William E. Collin '24 ° in honor of Morris W. Watkins '24 °.

ROBERT WATT SCHOLARSHIP FUND  
(1976) Gift of various donors in memory of Robert W. Watt CC 1916.

DR. CHARLES A. WEBSTER INTERSCHOOL SCHOLARSHIP FUND  
(1994) Gift of Charles A. Webster '40 °.

## GEORGE E. WEIGL SCHOLARSHIP FUND

(1982) Bequest of George Weigl '30.

## JOSHUA H. AND DONNA WEINER SCHOLARSHIP FUND

(1998) Gift of Joshua H. Weiner '36 °.

## ARTHUR S. AND MARIAN E. WEINSTOCK SCHOLARSHIP FUND

(1995) Gift of Arthur S. Weinstock '41 ° and Marian Elizabeth Keller Weinstock.

## GEORGE J. AND FRANCES K. WEINSTOCK SCHOLARSHIP FUND

(2006) Gift of Arthur S. Weinstock '41 ° in memory of his parents, George J. and Frances K. Weinstock P'41 °.

## EDWARD S. WEISIK SCHOLARSHIP FUND

(2004) Bequest of Edward S. Weisik '37.

## RABBI SHELDON J. WELTMAN, PH.D., SCHOLARSHIP FUND

(1992) Bequest of Rabbi Sheldon J. Weltman '58.

## WEST END SCHOLARSHIP FUND

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

## JOHN VISSCHER WHEELER SCHOLARSHIP FUND

(1914) Bequest of Susan E. Johnson Hudson.

## H. A. WHEELER SCHOLARSHIP FUND

(1923) Gift of H. A. Wheeler.

## THE JOHN AND MARY JO WHITE SCHOLARSHIP

(2008) Gift of John Walter and Mary Jo White P'08.

## JOSEPH THOMAS WIDOWFIELD SCHOLARSHIP FUND

(1994) Bequest of Joseph Thomas Widowfield '83.

## MARK HINCKLEY WILLES SCHOLARSHIP FUND

(1985) Gift of Mark H. Willes '63.

## MARK HINCKLEY WILLES SCHOLARSHIP FUND

(1989) Gift of Mark H. Willes '63.

## THE WILLNER FAMILY SCHOLARSHIP FUND

(2002) Gift of Jane and David Bloomgarden, and Joseph H. Willner.

## GEORGE LEO WINGSHEE MEMORIAL SCHOLARSHIP FUND

(2004) Gift of Donna W. Loo P'11.

## RICHARD E. WITTEN SCHOLARSHIP FUND

(2005) Gift of Richard E. Witten '75 and Elizabeth Witten P'10.

## WOLF FAMILY SCHOLARSHIP FUND

(2011) Gift of Sherri Pancer Wolf '90 and Douglas Robert Wolf '88.

## BEN D. WOOD SCHOLARSHIP FUND

(1986) Bequest of Ben D. Wood '22.

## GORDON W. WOOD SCHOLARSHIP FUND

(1992) Gift of Gordon W. Wood '43.

## WALTER WOODS SCHOLARSHIP FUND

(1997) Bequest of Walter Woods.

## KENNETH AND THOMAS WRIGHT SCHOLARSHIP FUND

(2008) Gift of Kenneth B. Wright '74.

## DAVID WU AND FRED WANG FUND

(2010) Gift of Weiming David Wu and Fred William Wang.

## PHILIP C. YACOS MEMORIAL SCHOLARSHIP FUND

(1986) Gift of Helen Yacos-Obuhanych P'80 ° and various donors in memory of Helen's son, Philip C. Yacos '80.

## YATRAKIS SCHOLARSHIP FUND

(2009) Gift of Demetrios Peter Yatrakis '05.

## ONG YEE SCHOLARSHIP FUND

(2010) Gift of Danny Ong Yee '77 and Stephanie Wong Yee P'15.

## KENNETH YIM FAMILY FUND

(2011) Gift of Kenneth Kwok LeungYim P'11.

## SAMUEL YIN SCHOLARSHIP FUND

(2005) Gift of Samuel Yin '76.

## YI-CHANG YIN AND WAN-HUNG CHANG YIN SCHOLARSHIP FUND

(2000) Gift of Samuel Yin '76.

## THE WILLIAM H. YOKEL SCHOLARSHIP FUND

(2007) Gift of William H. Yokel '44 °.

## THE YU FAMILY FUND

(2005) Gift of Kyung-Sun Yu P'09, P'13.

## TUNG LI AND HUI HSI YUAN MEMORIAL SCHOLARSHIP FUND

(1967) Gifts of various donors in memory of Tung Li Yuan '22 and Hui Hsi Yuan.

## VICTOR AND BETTY ZARO SCHOLARSHIP FUND

(1995) Gift of Victor J. Zaro '42 ° and Betty Zaro.

## TIMOTHY ZARO SCHOLARSHIP FUND

(2000) Gift of Victor J. Zaro '42 °.

## VICTOR J. ZARO SCHOLARSHIP FUND

(1996) Gift of Victor J. Zaro '42 °.

JESSICA ZAUNER MEMORIAL SCHOLARSHIP FUND  
(2006) Gift of Anton Zauner '73 and Anna E. Zauner.

JOSEPH C. ZAVATT SCHOLARSHIP FUND—  
COLUMBIA COLLEGE  
(2006) Bequest of Anna Maas Zavatt.

ZBT—STANLEY I. FISHEL, CC'34 SCHOLARSHIP  
FUND  
(2004) Gift of Delta ZBT Corporation.

FRANK JOSEPH ZDENOVEC SCHOLARSHIP FUND  
(1949) Bequest of Frank Joseph Zdenovec.

THE ZICKLER FAMILY SCHOLARSHIP FUND  
(2008) Gift of Leo E. Zickler '58.

DAVID AND RAY MOONEY ZWERLING  
SCHOLARSHIP FUND  
(1991) Gift of L. Steven Zwerling '60 and Leonard J.  
Zwerling '65 in honor of their parents, David and Ray  
Mooney Zwerling P'60, P'65, on their anniversary.

*° Deceased; P Parent; ∅ Widow*

# REGISTRATION

University Registrar (<http://registrar.columbia.edu>) : 205 Kent Hall, 212-854-4400

## REGISTRATION AND ENROLLMENT

Registration is the systematic process the 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 the course information in this Bulletin and the registration instructions contained in the *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 first registration**. International students should consult with the International Students and Scholars Office (<http://www.columbia.edu/cu/isso>), located at 524 Riverside Drive (telephone: 212-854-3587) for more information.

According to University regulations, each person who completes registration is considered a student of the University during the term for which they register, unless the student's connection with the University is officially severed by withdrawal or otherwise. No student registered in any school/college of the University shall at the same time be registered in any other school/college, either of Columbia University or of any other institution, without specific authorization of the dean/director of the school/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 registration 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 (<http://www.studentaffairs.columbia.edu/csa/cas>). Each Columbia College student must be registered for at least 12 points by the close of the Change-of-Program period and those students who are registered for fewer than 12 points by this point will be withdrawn from the College unless permission to remain is granted by the Committee on Academic Standing. Questions should be directed to students advising deans in the Center for Student Advising (CSA) (<http://www.studentaffairs.columbia.edu/csa>).

## Registration and Change-of-Program Instructions

Registration instructions are announced in advance of each registration period. Students' individual registration times are listed in Student Services Online (SSOL) (<https://ssol.columbia.edu>) and registration dates are listed on the Academic Calendar. Students should also consult the Registrar's website (<http://registrar.columbia.edu>) for additional information.

## REGISTERING FOR CLASSES

Registration for classes is by appointment on-line via Student Services Online (SSOL) (<https://ssol.columbia.edu>). Some classes may be blocked for on-line registration and require written approval; students should check the *Directory of Classes* (<http://www.columbia.edu/cu/bulletin/uwb>) for approval information. Courses blocked from on-line registration can only be added to a student's academic program by the Center for Student Advising (<http://www.studentaffairs.columbia.edu/csa>) and require a completed Add/Drop form, with all necessary approvals confirmed. Students cannot use the Add/Drop form to register for courses not blocked from on-line registration.

Students otherwise unable to register through SSOL must submit to the Center for Student Advising a completed Add/Drop form, with all necessary approvals confirmed.

Students are not permitted to register for more than 22 points or for overlapping classes and are responsible for ensuring that their academic programs are in accordance with these policies. Should students be accepted into courses through the Wait List mechanism that result in registration for more than 22 points and/or for overlapping courses, students are required to drop additional courses by the end of the Change-of-Program period.

## DROPPING COURSES

Students may drop a course on-line by appointment until the drop deadline. With the exception of certain Core Curriculum



courses (see below (p. 74) ), the final dates for dropping courses are October 7 for Fall 2014 and February 24 for Spring 2015.

Columbia College students are not permitted to remove a course from their academic record after the drop deadline. If a student withdraws from a course after the drop deadline and no later than the Pass/D/Fail deadline (the eleventh week of the semester), the transcript will show a mark of W for that course. This is a permanent mark and will remain on the transcript even if the student repeats the course. The students will earn no points of academic credit for classes in which they receive the mark of W.

Students may not drop or withdraw from a Core Curriculum course (i.e. *Literature Humanities*, *Frontiers of Science*, *Contemporary Civilization*, *Art Humanities*, *Music Humanities*, and *University Writing*) after the end of the Change-of-Program period. This does not apply to courses taken to fulfill the Global Core, Science, or Foreign Language requirements.

Students may not withdraw from any course after the Pass/D/Fail deadline. After that point, students can only receive the letter grade earned in the course.

Students should be aware that, in order to remain in good academic standing, they must successfully complete no fewer than 12 points in a given semester. Students who do not earn 12 or more points will face academic probation, suspension, or dismissal.

To withdraw from a class, students must submit a Withdrawal Request Form to the Center for Student Advising (CSA) (<http://www.studentaffairs.columbia.edu/csa>) in 403 Lerner Hall.

Failure to attend classes or unofficial notification to the instruction does not constitute dropping a course. Students who stop attending classes without dropping or officially withdrawing are assigned the letter grade earned by factoring as zero or F for any missing work.

## DROPPING CORE COURSES

Students may drop a Core Curriculum course, using the on-line registration system, no later than September 12 for Fall 2014 and January 30 for Spring 2015. Note that these deadlines differ from the deadlines to drop other courses. Students may also refer to the Core Curriculum website (<http://www.college.columbia.edu/core/reg>) for more information.

Students are not permitted to drop *Literature Humanities*, *Frontiers of Science*, *Contemporary Civilization*, *Art Humanities*, *Music Humanities*, or *University Writing* after these deadlines without the approval of the Committee on Academic Standing (<http://www.studentaffairs.columbia.edu/csa/cas>) . Students should consult their CSA advising dean for more information on the petition process.

Students wishing to drop courses counting toward the Global Core, Science, and Foreign Language requirements are bound by the general drop deadlines listed on the Registrar's website (<http://registrar.columbia.edu>) , and on the *Academic Calendar* in this Bulletin.

## CHANGING GRADING OPTIONS

Courses may be changed from letter grading to Pass/D/Fail or from Pass/D/Fail to letter grading up to and including November 13 for Fall 2014 and up to and including March 26 for Spring 2015. Please refer to the *Academic Regulations* (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/regulations/#examsandgradestext>) listed in this Bulletin for more information regarding this grading option.

# ACADEMIC REQUIREMENTS

In order to graduate from Columbia College and earn a Bachelor of Arts degree, all students must successfully complete:

- 124 points of academic credit
- The Core Curriculum
- One major or concentration

## POINTS AND CREDIT

Every student must complete 124 points of academic credit. The last two terms must be taken while enrolled in the College for study on this campus or on one of the Columbia-sponsored international programs (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/study-abroad/#sponsoredprogramtext>).

One course may not normally be taken to fulfill more than one requirement for the degree. However, a course that satisfies the Global Core, Science, or Foreign Language requirements may be double-counted in order to satisfy the requirements for one major or concentration.

Courses may not be repeated for credit. Credit cannot be earned for courses taken in subjects and at the same level for which Advanced Standing (AP, IB, GCE, etc.) has been granted. For more information, see *Academic Regulations*—Placement and Advanced Standing.

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 and Analytic Geometry). Students who have questions about whether degree credit may be earned in a course should consult their advising dean.

## THE CORE CURRICULUM

The following required courses constitute the Columbia College Core Curriculum (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/core-curriculum>). They include general education requirements in major disciplines and, except for Physical Education, must be taken for a letter grade:

### Literature Humanities

HUMA C1001	Masterpieces of Western Literature and Philosophy
- HUMA C1002	and Masterpieces of Western Literature and Philosophy

### Frontiers of Science

SCNC C1000	Frontiers of Science
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### University Writing

ENGL C1010	University Writing
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### Contemporary Civilization

COCI C1101	Introduction To Contemporary Civilization
- COCI C1102	and Introduction To Contemporary Civilization

### Art Humanities

HUMA C1121	Masterpieces of Western Art
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### Music Humanities

HUMA C1123	Masterpieces of Western Music
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### Science Requirement

Two terms from the list of approved courses
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### Global Core Requirement

Two terms from the list of approved courses
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### Foreign Language Requirement

Four terms or the equivalent
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### Physical Education

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 expects students to complete *Contemporary Civilization* by the end of the sophomore year, and *Art Humanities* and *Music Humanities* by the end of junior year.

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 and as determined by the relevant academic department, may be satisfied at Barnard College. Other exceptions to this rule are granted only with the approval of the Committee on Academic Standing, except for the Global Core and the Science requirements, which must be petitioned to the appropriate faculty committee and must first meet with their advising dean. Students who wish to satisfy degree requirements with courses taken at other universities in the summer must receive the advance approval of the Dean of Advising, and must first schedule a meeting with their advising dean.

## THE DEPARTMENTAL MAJOR OR CONCENTRATION

All students must complete either a major or a concentration as described in the departmental sections of this Bulletin. 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.

The faculty members of each academic department determine the requirements for a major or concentration. It is students' responsibility to ensure that they complete the stated major or concentration requirements. 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.

All courses used to meet the requirements of a major or concentration, including related courses, may not be taken for a grade of Pass/D/Fail, except the first such one-term course taken by the student in his or her eventual major, unless otherwise specified by the department.

Some majors and concentrations require that certain introductory courses be completed before the start of the junior year. Students should read carefully the requirements for their proposed major or concentration and direct questions to the relevant Director of Undergraduate Studies (DUS) (<http://www.college.columbia.edu/academics/majoradvising>).

In the spring of their sophomore year, students should confer with faculty members in the department, advising deans, and 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. Rare exceptions to this may be made only by the faculty Committee on Instruction (COI), based on what it regards to be intellectually compelling grounds. Students wishing to request a waiver of this policy are required to submit a petition to the COI through the Office of the Dean, in 208 Hamilton Hall.

## 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 count twice for more than one major or concentration. Students will not be awarded additional semesters for the purposes of completing an additional major or concentration.

## 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*).

## 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 broad range of majors and concentrations. To graduate from Columbia College, all transfer students are required to complete the Core Curriculum and at least one major or concentration, and to have earned at least 124 points in academic credit. Upon admission to Columbia College, transfer students should familiarize themselves with the regulations pertaining to their special status (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/regulations>).

## PLANNING A PROGRAM

All students are expected to consult with their advising deans and departmental advisers, who will assist them in selecting appropriate courses and planning their programs. Advising deans serve as the primary adviser for all academic planning, other than that for the major or concentration. Directors of Undergraduate Studies (DUS) (<http://www.college.columbia.edu/academics/majoradvising>), and other faculty representatives of the academic departments, serve as the primary adviser for major and concentration program planning.

The Center for Student Advising (CSA) (<http://www.studentaffairs.columbia.edu/csa>), located in 403 Lerner Hall, is the first stop for students to discuss their advising needs as they create and reflect on their program of study at Columbia. Productive advising is built on a true partnership in which the student and the adviser work together. The spirit of an ideal advising partnership is one of mutual engagement, responsiveness, and dedication. Regular advising conversations, the fundamental building blocks of

the partnership, enable an adviser to serve as a resource of knowledge and a source of referrals - so that students may plan and prepare, in the broadest sense, over the course of their years at Columbia. Students can make appointments with their advising deans using the online Comprehensive Advising Management System (<http://bulletin.columbia.edu/columbia-college/requirements-degree-bachelor-arts/%20http://studentaffairs.columbia.edu/csa/appointments>) .

To ensure successful planning, students should familiarize themselves with all academic opportunities in which they are interested. In particular, students should note that some majors and concentrations require that certain introductory courses be completed before the start of the junior year. Similarly, study abroad, professional programs and graduate schools have a range of requirements that must be successfully completed at prescribed times during the undergraduate career. Specifically, students considering a major in the sciences should, in their first two years, focus on required introductory sciences courses in addition to 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.

In addition, all students should:

1. Become thoroughly familiar with the requirements for the degree and with the College regulations, including deadlines;
2. Plan to complete *Masterpieces of Western Literature and Philosophy I & II* (HUMA C1001-HUMA C1002) as well as *Introduction to Contemporary Civilization in the West* (COCI C1101 -COCI C1102 ) by the end of the sophomore 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.

## Advising for First-Year Students

There are many advising opportunities for incoming students in the summer prior to matriculation. In the summer, each incoming student receives the *Academic Planning Guide for New Students* , which is designed to assist incoming students in planning and creating their academic programs. Incoming students are also encouraged to participate in the summer advising program Columbia 101 (<http://www.studentaffairs.columbia.edu/welcome2018>) and the

online chat sessions offered each July. Students receive the name and contact information of their assigned advising dean in mid-August and will meet with their advising dean for the first time during the New Student Orientation Program. Students are expected to follow-up with their advising dean within two weeks of the new term and to schedule regular meetings throughout their years at Columbia.

Each first-year student is preregistered for *Literature Humanities* as well as *Frontiers of Science* or *University Writing*. (First-year students are preregistered for either *Frontiers of Science* or *University Writing* in the fall term and take the other course in the spring term.) During the New Student Orientation Program, each incoming student is expected to meet with their advising dean in order to discuss their fall course selections. Students will be assigned an SSOL (<https://ssol.columbia.edu>) registration appointment (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/registration>) for the Friday of the New Student Orientation Program, during which time students will register for courses to complete their fall term schedule. Students should continue to meet with their advising deans as they finalize their program in the first two weeks of the term.

## 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. Students 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 the quality of the proposal, the student's qualifications, and the availability of an appropriate faculty adviser.



# ACADEMIC REGULATIONS

## DEGREE REGULATIONS

### POINTS PER TERM

Columbia College students 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. The average load for a Columbia College student is 15-16 points per term. Final semester students may petition the Committee on Academic Standing to register for fewer than 12 points if they will complete the degree in that term.

Students not registered for at least 12 points by the end of the Change-of-Program period (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/academic-calendar>) must speak with their advising dean as soon as possible. If resolution cannot be reached by the College deadline for dropping classes, such students will be placed on leave from the College.

### 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 *Columbia University Policies—Religious Holidays*.

### LENGTH OF CANDIDACY

A student is normally permitted eight terms in which to earn the Bachelor of Arts (B.A.) degree at Columbia College. A student may continue to work for the degree past the eighth term only with advance permission from the Committee on Academic Standing and must first discuss such requests with their advising deans. Study beyond the eighth semester is only granted for students who have found themselves in emergent circumstances beyond their control which have prevented them from completing the degree in eight terms. Study beyond the eighth semester is not granted for the purposes of changing or adding a major or concentration.

## REGULATIONS FOR TRANSFER STUDENTS

### 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 (including credits earned on

Columbia-sponsored study abroad programs). 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 to be 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, submitted a final official transcript, course descriptions, and syllabi, and received all appropriate approvals from relevant academic departments.

### Degree Completion

Transfer students are expected to graduate in eight semesters, including terms completed before entering Columbia. Extended time is not granted. In particular, extended time is not granted to enable a student to finish a particular major or concentration. Therefore transfer students should be especially careful when planning their academic schedule and are strongly urged to do so with the guidance of their advising deans and the Director of Undergraduate Studies (<http://www.college.columbia.edu/academics/majoradvising>). Some majors may be difficult for transfer students to complete due to the number of credits required, the specific course sequencing, and the number of terms remaining for the student to complete all Core and major requirements. There is no guarantee that a transfer student can complete every major and concentration offered and all transfer students must declare a major or concentration that they are capable of completing in the time available to them in Columbia College.

## PROGRESS TOWARD THE DEGREE

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 warning, academic probation, suspension, and dismissal.

### Academic Probation

Students may be placed on academic probation for the following reasons: failure to successfully complete 12 points in a term; a term or cumulative grade point average below 2.0; or failure to make satisfactory progress toward the degree. Students are notified when placed on academic warning. Students and parents/guardians are notified when students are



placed on academic probation or suspension, or are dismissed from the College. The advising deans in the Center for Student Advising (<http://www.studentaffairs.columbia.edu/csa>) are available to provide concerted support to help students on academic action return to good standing.

There is no appeal available to students placed on academic warning or academic probation. Academic warning does not remain on students' records. Academic probation, suspension, and dismissal remain on students' records.

Students who do not make adequate progress toward the degree will be placed on academic probation, according to the following chart:

Semester	Points for typical progress	Threshold for academic probation
1	12	<12
2	31	<24
3	46	<38
4	62	<52
5	77	<69
6	93	<86
7	108	<105
8	124	

For example, by the end of the first two terms, Columbia College students are expected to have completed 31 points (an average of 15.5 points per term). If they have completed fewer than 24, they will be placed on academic probation and should work with their advising dean to plan ways to return to normal progress toward the degree.

The advising deans in the Center for Student Advising (<http://www.studentaffairs.columbia.edu/csa>) offer support to help students on academic action 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 to 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 suspended and required to withdraw from the College for at least one 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, it is likely that he or she will be dismissed from the College. When students are suspended or dismissed, they are notified of the process to

appeal the decision. The decision of the appeals committee is final.

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 (<http://www.columbia.edu/cu/isso>) (ISSO) to discuss any options available.

## EXAMS AND GRADES EXAMINATIONS

### Midterm Examinations

Midterm examinations are generally scheduled by instructors in late October and the middle of March.

### Final Examinations

Final examinations are given at the end of each term. The Master University Examination Schedule is available in Student Services Online (SSOL) (<http://ssol.columbia.edu>) and is typically available shortly after the midterm examinations. Prior to its availability, students and faculty should consult the Projected Exam Schedule in SSOL.

### Rescheduling Exams

Examinations are not rescheduled in order to accommodate students' travel plans. Students are expected to remain on campus throughout the examination period at the end of each semester.

Under certain circumstances, it may be necessary for an instructor to reschedule an exam. Any day or time changed in appointed final exam times must be agreed with members of the class. All students unable to take the exam at the new agreed-upon time must be given a make-up exam at a time that they are able to attend.

### Student Examination Conflicts

Students will occasionally have two exams scheduled for the same time and no student is obliged to take three exams on any given calendar day (i.e. not a twenty-four hour period).

Students in either circumstance should meet with their advising dean in the Center for Student Advising (<http://www.studentaffairs.columbia.edu/csa>) in order to initiate the process for arranging a make-up exam, no later than two weeks after the final exam schedule is published (November 1 in the fall semester and March 31 in the spring semester).

### Failure to Complete a Final Exam

If a student does not take a final exam, or begins but does not complete a final exam, the grade of zero or F will be factored

for that portion of the final grade. No make-up exams will be offered in these circumstances.

## Incompletes

Students facing grave medical or family emergencies at the time of a final exam may petition the Committee on Academic Standing for permission to complete the final exam or paper at a later date. Students will receive a temporary mark of IN (Incomplete) until the work is completed. For more information, see below.

## 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:

Grade	GPA Equivalent
A+	4.33
A	4.0
A-	3.67
B+	3.33
B	3.0
B-	2.67
C+	2.33
C	2.0
C-	1.67
D	1.0
F	0

## 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 to take 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 for a grade 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 this grading option may designate in SSOL a single course for the grade of Pass/D/Fail when registering each term in the College or no later than November 13 in Fall 2014 and March 26 in Spring 2015. During the semester and no later than these deadlines, students may elect to change which course is designated to be taken on a Pass/D/Fail basis. No more than one course may be designated to be taken on a Pass/D/Fail basis at any point in a given semester.

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. Seniors who graduate in May have until June 1 to uncover the grade of a final spring 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 a major or concentration is made in each relevant academic department.

## The Mark of W (Withdrawal)

Columbia College students are not permitted to have a course deleted from their academic record after the drop deadline (the fifth week of the semester). If a student withdraws from a course after the drop deadline and no later than the Pass/D/Fail deadline (the eleventh week of the semester), the transcript will show a mark of W for that course. This is a permanent mark, and will remain on the transcript even if the student repeats the course.

Students may not drop or withdraw from a Core Curriculum course (i.e., *Literature Humanities*, *Frontiers of Science*, *Contemporary Civilization*, *Art Humanities*, *Music Humanities*, and *University Writing*) after the Core drop deadline. This does not apply to courses taken to fulfill the Global Core, Science, or Foreign Language requirements.

Students may not drop or withdraw from any course after the Pass/D/Fail deadline. After that point, a student will receive the letter grade earned in the course.

Students should be aware that, in order to remain in good academic standing, they must successfully complete no fewer than 12 points in a given semester. Students who do not earn at least 12 points in a semester will face academic probation, suspension, or dismissal.

To withdraw from a class, students may submit a Withdrawal Request Form to the Center for Student Advising, 403 Lerner Hall.

## The Mark of AR (Administrative Referral)

Given to students as a temporary mark in circumstances when a student's irregular academic behavior in class merits something other than grades A through F, and designed to allow an instructor a reasonable default grade for use until an appropriate permanent grade can be submitted. Ultimately, the decision as to what the final grade should be will rest with the individual instructor, and a grade of AR will alert the Dean of Academic Affairs, whose staff will follow up with the instructor to help determine what final grade is appropriate.

## The Mark of IN (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 IN 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 IN must petition the Committee in writing (petition forms are available in the Center for Student Advising (<http://www.studentaffairs.columbia.edu/csa>)) 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 IN, it is expected that students will have completed all work in the class with the exception of the final project or

exam. If a student has not completed all work in the class up to the final project or exam, an IN will not be granted.

Students who are granted an IN 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 receive the contingency grade. All other marks of IN that remain unresolved by the end of one calendar year will be converted to the final grade of F, unless there is a documented reason to do otherwise. Questions may be directed to advising deans in the Center for Student Advising.

## The Mark of R (Registration Credit)

The "R" credit option is available only to Columbia College seniors. Students who wish to audit a class can request permission from the Committee on Academic Standing in the Center for Student Advising to take a course for R credit. No point credit is given for R credit, and the GPA is unaffected by the mark of R. Students who take a course for R credit must have the permission of the instructor. Students may be required to complete certain work as specified by that 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. During the academic year 2014-2015, the deadline for registering for R credit is November 13 in the fall term and March 26 in the spring term. 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 advising dean and the instructor.

## 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 mark of CP will appear on the students' transcripts until the final grade is submitted. The mark 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 on SSOL (<https://ssol.columbia.edu>) on the first business day after they are received by the Registrar. Paper and electronic transcripts may be ordered by currently enrolled students via SSOL. Students who find discrepancies in or have questions about their records should contact the Registrar's Office.

## PLACEMENT & ADVANCED STANDING

### LANGUAGE PLACEMENT EXAMINATIONS

First-year students can select appropriate levels in French, German, Hebrew, Latin, Italian, or Spanish on the basis of scores on SAT II: Subject Tests or Advanced Placement examinations. All continuing language students who have not taken one of these tests **must** take a Columbia placement exam in order to enroll in language study. The exact exam times and dates 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 exam options other than those provided during New Student Orientation.

### ADVANCED STANDING

For information about advanced standing for transfer students, see Requirements for the Degree of Bachelor of Arts (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/requirements-degree-bachelor-arts>).

Entering 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 approved advance standing programs.

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 College Board Advanced Placement (AP) Program, GCE Advanced Level Examinations, International Baccalaureate Examination, or other national systems. Entering first-year students are not granted credit for courses taken at other colleges before graduation from secondary school. Students may receive a maximum of 6 points of credit for college courses taken after graduation from secondary school and prior to matriculation at Columbia.

Students who wish to receive advanced credit or 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 students receive credit for two exams that cover the same material (e.g., Calculus AP and Mathematics GCE Advanced Level Exam). In some cases, credit is awarded only when students successfully complete the course into which placement was awarded (or, the College

may require a student to complete a particular course in order to receive advanced credit).

The actual determination of advanced credit is made after students matriculate in accordance with departmental and College policies and is awarded upon completion of the first year at Columbia. Students wishing to arrange such credit must meet with their advising dean and provide the relevant transcript/certificate.

## ADVANCED PLACEMENT (AP) 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 (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/core-curriculum/foreign-language-requirement>)). Each year, individual departments review the College Board AP curriculum and determine appropriate placements, credit, and/or exemptions. Students entering in the 2014–2015 academic year may be awarded AP credit for the following subjects and should refer to the relevant 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	German Languages
Government and Politics	Political Science
History	History
Italian	Italian
Latin	Classics
Mathematics	Mathematics
Physics	Physics
Spanish	Latin American and Iberian Cultures
Statistics	Statistics

### International Baccalaureate

Entering students are granted 6 points of credit for each score of 6 or 7 in IB Higher Level examinations if taken in disciplines offered as undergraduate programs at Columbia College up to a total maximum of 16 points.



## BRITISH ADVANCED LEVEL EXAMINATIONS

Students with grades of A or B on British Advanced Level examinations are granted 6 points of credit for each taken in the disciplines offered as undergraduate programs at Columbia up to a total maximum of 16 points.

## OTHER NATIONAL SYSTEMS

Pending review by the appropriate academic department at Columbia, students who complete secondary school work in other national systems may be granted credit in certain disciplines for sufficiently high scores.

## STUDY OUTSIDE COLUMBIA COLLEGE

### COURSES TAKEN IN OTHER COLUMBIA UNDERGRADUATE SCHOOLS

None of the courses listed in this Bulletin or 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.

### 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.

### COURSES TAKEN IN THE 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.

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, students **must** follow the policies established by the various professional schools, **must** have the permission of the instructor of the course they wish 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 who wish 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*. 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-Program periods.

### School of Continuing Education

Columbia College students are not permitted 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 information above regarding the Columbia Summer session.

### 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

Normally, students are not allowed to enroll in courses offered through the Law School. Exceptions to this policy may be granted under the following circumstances:

1. Law School courses may be taken 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.

2. A small number of seniors are permitted to enroll in one or two seminars, selected by Law School faculty. More information is available in the Center for Student Advising.

## Mailman School of Public Health

Courses may be taken by qualified undergraduates on a space-available basis with the permission of the department in which the course is taught. Students must complete the Public Health Cross Registration Application Form and receive signed permission from the department, as well as the School of Public Health's Office of Student Affairs, 722 West 168 Street, Suite 1014. Once Public Health permissions are secured, students must also receive signed permission from the Center for Student Advising, 403 Lerner, before proceeding to register for the course at the Registrar's Office, 205 Kent Hall.

The Public Health Cross Registration Form can be found on <http://www.mailman.columbia.edu/students/student-academics/registration-course-info/downloadable-forms>.

## 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.

## SUMMER STUDY

### Columbia University 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 the *Academic Regulations*—Exams and Grades section of this Bulletin.

Students who plan to take any courses in the summer 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 (<http://www.college.columbia.edu/academics/courseselection>).

## Summer School Classes Taken Outside Columbia

Students are not normally permitted to earn credit toward their degrees outside of Columbia except in the case of approved study abroad programs. Students who nevertheless wish to request permission to receive credit for summer school courses taken outside Columbia *must*:

1. Obtain a copy of Columbia College's Outside and Summer Credit Approval forms, available in the Center for Student Advising, 403 Lerner.
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. Students should note that introductory and intermediate language courses are approved pending the successful completion of the departmental placement test or successful completion of a higher level language course. Students are responsible for arranging departmental testing upon return to campus in the fall. Students who elect to discontinue study of the language or do not take the relevant departmental placement test will not be granted credit for the summer courses taken.
3. Discuss the study plans with their advising dean.
4. Complete the approval request form, outlining their reasons for taking summer courses and listing the specific courses in which they wish to enroll. Submitted to students' advising deans, the request is then reviewed by the Committee on Academic Standing, which determines whether or not summer school courses are approved for credit.
5. Students may not receive credits for study abroad during the summer except in Columbia-sponsored programs, or approved foreign-language, archaeology, and field-studies programs. Students seeking summer study abroad credits must receive permission from the Office of Global Programs, 606 Kent Hall.
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, prior to taking the course.

Approval to receive College credit for summer school courses does **not** ensure approval of the course toward one of these requirements.

## 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, as part of an approved study abroad program, or to participate in approved exchange programs. Exceptions may be granted for study during the summer. See below for more information.

Matriculation at another institution renders students ineligible to continue at Columbia. Columbia College students who matriculate at another post-secondary institution and/or are considered a degree-seeking student at a college or university other than Columbia College will be withdrawn from Columbia with no opportunity to return and complete the Columbia College degree.

## COURSES TAKEN FOR GRADUATE SCHOOL 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.

## WITHDRAWALS, LEAVES, & READMISSION

Withdrawal is defined as the dropping of one's entire program in a given term and thus withdrawal from the College. 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 results in failing grades in all courses.**

## MEDICAL LEAVE OF ABSENCE

A medical leave is granted to a student whose health interferes with successful full-time study. A leave can be granted for a minimum of one term and a maximum of two years (whether cumulatively or consecutively). Unless a student is granted an exception in extenuating circumstances, a student is permanently withdrawn after they exceed this maximum time period and must reapply for admission through the school's regular admissions process. Students may only return in the fall or spring term, not in the summer sessions. The length of the leave must fall within these parameters and be accompanied by an individualized assessment by a healthcare practitioner at the start and end of leave.

Students must consult with their advising dean to initiate a leave, and then provide medical documentation to support the request. Medical leaves must be accompanied by an individualized assessment of students' individual healthcare needs.

While on leave, students must be actively engaged in a course of medical treatment that leads to recovery. In addition, students are required to continue to access their Columbia email as this is the official means of communication by the University. All questions can continue to be addressed to students' advising deans.

## Academic Standing

Students who leave in good academic standing will return in good academic standing; students who leave on academic action will return on academic action. If a medical leave begins on or before the Columbia College Pass/D/Fail deadline, the semester will not appear on the record and will not count toward the eight-semester limit. If a leave begins after that deadline, courses will remain on the transcript, and the semester will count toward the eight total semesters granted every undergraduate in the College. Ordinarily, Columbia College students who are authorized to withdraw for medical reasons after the Pass/D/Fail deadline will receive a "W" for each of their courses for the term. These notations indicate an authorized withdrawal from the courses. In rare cases, when a student must leave for medical reasons beyond the relevant deadline, a student and advising dean can work together with the faculty to determine whether an "Incomplete" would be a more appropriate notation on the transcript. In order to be eligible for this, the student must have completed all work for the course except the final paper, exam, or project, the course must not have required attendance, and the student must obtain the approval of the relevant deans in the Center for Student Advising and the faculty. Students should consult with their advising deans for more details.

As noted, in rare cases, students who initiate a leave beyond the deadline listed above may qualify for authorized Incompletes in their courses. Students who have been approved for authorized Incompletes in the last semester before their Medical Leave must complete the work of each

course upon their return to campus during the deferred exam period. If the work is not completed during the deferred exam period of the semester in which the student returns, the grade will convert to the contingency grade or an F. Due dates of incomplete work should be determined in consultation with the CSA advising dean upon notification of readmission.

When students depart after the deadlines listed above, they must be aware that they will likely fall behind in points necessary to remain in good academic standing. To determine whether or not they will fall behind, students should remember that Columbia College students should complete an average of 15.5 points per term to remain in good academic standing. Students should consult with their advising deans to learn whether or not they will fall below the “low points threshold” established for Columbia College students and, if so, work with their advising deans and departments to create a reasonable academic plan to ensure completion of the degree in eight terms. Students are not permitted to earn credits toward the degree while on medical leave from the University, as the purpose of the leave is to regain full health in order to return and resume full-time study. In some cases, healthcare practitioners may recommend that students take courses at home institutions as part of the recovery process. Those points will not, however, count toward the Columbia degree.

## Readmission from Medical Leave of Absence

Students must complete all parts of the following readmission procedures by the following deadlines:

- Fall semester readmission – June 1
- Spring semester readmission – November 1
- Summer session readmission – not permitted

In order to begin readmission, students must first discuss their plans with their advising dean and then submit by email or fax to their advising deans the following letters:

1. Request for readmission: this letter should review the circumstances that led to the leave, describe in detail any activities pursued while away, explain why studies can now be successfully resumed, and outline a plan for continued support. The letter should also indicate whether or not campus housing will be required.
2. Medical practitioner support: this letter should describe the treatment, progress made, an evaluation of students’ readiness to return to full-time study at Columbia, and the recommended continued care plan.

The Medical Leave Readmission Committee, made up of representatives of Columbia University Health Services and the Center for Student Advising, meets in June and November to consider readmission requests for the fall and spring, respectively. Committee review is not guaranteed when documentation is submitted late. Students will receive

notification one of the following three outcomes of the Committee’s assessment of readmission requests:

1. Applicants are approved for interview by relevant Columbia University Health Services practitioner, for final adjudication. Students may then be officially readmitted or denied readmission and will be notified by the Center for Student Advising by letter and email;
2. Additional information is requested;
3. Readmission denied. Students may reapply.

Once officially readmitted, students will be provided an on-line registration appointment in order to enroll for the coming term. Normally, students will be able to register in late August for the fall and in mid-January for the spring term. In addition, students who are guaranteed housing upon readmission may submit housing application by following the instructions in the readmission letter. Students on leave cannot participate in housing lotteries until readmitted.

Students must note that all financial obligations to the University must be cleared before readmission is finalized.

Students are urged to meet with their advising dean and a Residential Programs staff member, if applicable, during the first two weeks upon return to campus to ensure a smooth transition to the campus community. Students wishing to change CSA adviser assignment should email Monique Rinere, Dean of Advising, at [mrinere@columbia.edu](mailto:mrinere@columbia.edu).

## VOLUNTARY LEAVE OF ABSENCE

A voluntary leave of absence (VLOA) may be granted by the Committee on Academic Standing to undergraduate students who request a temporary withdrawal from Columbia College for a nonmedical reason. Students considering a voluntary leave must discuss this option in advance with their advising dean in the Center for Student Advising. Voluntary leaves are granted for a period of one to four terms. Students must be in good academic standing at the time of the leave, and must be able to complete the degree in eight semesters. Students may not take courses for transferable credit while on leave. Finally, students who choose to take voluntary leaves are not guaranteed housing upon return to the University. International students should contact the International Students and Scholars Office to ensure that a leave will not jeopardize their ability to return to Columbia College.

## FAMILY EMERGENCY LEAVE OF ABSENCE

Columbia College students who must leave the university for urgent family reasons that necessitate a semester-long absence (e.g. family death or serious illness in the family) may request an emergency family leave of absence. Documentation of the serious nature of the emergency must be provided. Students must request an emergency family leave of absence from their advising dean in the Center for Student Advising.

When an emergency family leave of absence is granted during the course of the semester, the semester will be deleted if the leave begins prior to the drop deadline. If a student leaves after the drop deadline, the course grades will normally be W (authorized withdrawal) in all courses. In certain circumstances, a student may qualify for an Incomplete, which would have to be completed by the first week of the semester in which the student returns to Columbia. If the Incomplete is not completed by that time, a W will be inserted.

To return to Columbia College, students must notify the Center of Student Advising by June 1 for the fall term or November 1 for the spring term. Students must request readmission in writing and submit a statement describing their readiness to return. Once readmission is granted, housing will be guaranteed.

Students who decide not to return must notify the Center for Student Advising of their decision. Leaves may not extend beyond four semesters. Students who do not notify the Center for Student Advising of their intentions by the end of the two-year period will be permanently withdrawn from the College.

## 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. Students should consult their advising dean for further information.

Students who fail to graduate and who have been withdrawn must apply for readmission within a two-year period in order to have an opportunity to complete the degree. To apply for readmission, students must have successfully completed no fewer than 90 points of academic credit and earned a GPA of no less than 2.0. Students must fulfill the degree and major or concentration requirements in place at the point of original matriculation. Readmission will be predicated upon the assessment of students' ability to successfully complete the degree within one calendar year. Inquiries regarding readmission should be directed to the Center for Student Advising.

Students applying for readmission should complete all parts of the appropriate readmission procedures by June 1 for the fall term or November 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).

## GOVERNANCE

### 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 annual publication. College policy requires students to fulfill the degree requirements as stated in the bulletin of the first year of their matriculation into the College.

### MODIFICATION OF REQUIREMENTS

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

### 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, the associate dean of advising, and the dean of advising.



# CORE CURRICULUM

**The Center for the Core Curriculum** (<http://www.college.columbia.edu/core>) • 202 Hamilton; 212-854-2453

The Core Curriculum is the cornerstone of the Columbia College education. The central intellectual mission of the Core is to provide all students 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, Core Curriculum courses are equally important for their small class format. Taught in seminars of approximately twenty-two students, these courses ensure that education at Columbia begins with an emphasis on active intellectual engagement. The small class sizes provide students with opportunities to develop intellectual relationships with faculty early on in their College career and to participate 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 engaged citizen in today's complex and changing world.

## COMMITTEE ON THE CORE CURRICULUM

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# LITERATURE HUMANITIES

**Chair of Literature Humanities:** Prof. Julie Crawford, 602  
Philosophy; 212-854-5779

Literature Humanities Website (<http://www.college.columbia.edu/core/lithum>)

*HUMA C1001 Masterpieces of Western Literature and Philosophy- HUMA 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 Masterpieces of Western Literature and Philosophy- HUMA C1002 Masterpieces of Western Literature and Philosophy* is included in the registration materials sent to students. All first-year students are preregistered in Literature Humanities.

## COURSES OF INSTRUCTION

**HUMA C1001 Masterpieces of Western Literature and Philosophy. 4 points.**

Prerequisites: NULL

Corequisites: NULL

*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

### Fall 2014: HUMA C1001

Course Number	Section/ Call Number	Times/Location	Instructor	Points	Enrollment
HUMA 1001	001/81846	M W 9:00am - 10:50am 609 Hamilton Hall	Stephane Charitos	4	22/22
HUMA 1001	002/82396	M W 9:00am - 10:50am 613 Hamilton Hall	Robert Thomas	4	22/21
HUMA 1001	003/82846	M W 9:00am - 10:50am 306 Hamilton Hall	Nancy Workman	4	21/22
HUMA 1001	004/83146	M W 9:00am - 10:50am 318 Hamilton Hall	Samuel North	4	22/21
HUMA 1001	005/83446	M W 9:00am - 10:50am 302 Hamilton Hall	Mark Mazower	4	22/22
HUMA 1001	006/87096	M W 2:10pm - 4:00pm 511 Hamilton Hall	Richard Sacks	4	22/21
HUMA 1001	007/87447	M W 2:10pm - 4:00pm 602 Northwest Corner	Jennifer Rhodes	4	22/22
HUMA 1001	008/87796	M W 2:10pm - 4:00pm 304 Hamilton Hall	Amy Johnson	4	22/21
HUMA 1001	009/88196	M W 2:10pm - 4:00pm C01 Knox Hall	Darragh Martin	4	22/22
HUMA 1001	010/88496	M W 2:10pm - 4:00pm 303 Hamilton Hall	James Adams	4	22/21
HUMA 1001	011/88746	M 2:10pm - 4:00pm C01 80 Claremont	Anne Diebel	4	22/22
HUMA 1001	011/88746	W 2:10pm - 4:00pm 222 Pupin Laboratories	Anne Diebel	4	22/22
HUMA 1001	012/91146	M W 2:10pm - 4:00pm 224 Pupin Laboratories	Alan Fishbone	4	22/21
HUMA 1001	013/91446	M W 2:10pm - 4:00pm 609 Hamilton Hall	Liza Knapp	4	22/22
HUMA 1001	014/91846	M W 4:10pm - 6:00pm 509 Hamilton Hall	Elizabeth Marcus	4	22/21
HUMA 1001	015/92146	M W 4:10pm - 6:00pm 318 Hamilton Hall	Seth Kimmel	4	22/22
HUMA 1001	016/92396	M 4:10pm - 6:00pm C01 80 Claremont	Anne Diebel	4	22/21
HUMA 1001	016/92396	W 4:10pm - 6:00pm 222 Pupin Laboratories	Anne Diebel	4	22/21
HUMA 1001	017/92747	M W 4:10pm - 6:00pm 511 Hamilton Hall	Emily Shortslief	4	22/22
HUMA 1001	018/93046	M W 4:10pm - 6:00pm C01 Knox Hall	Darragh Martin	4	21/21
HUMA 1001	019/93297	M W 4:10pm - 6:00pm 425 Pupin Laboratories	Frederick Bengtsson	4	22/22
HUMA 1001	020/93546	M W 6:10pm - 8:00pm 302 Hamilton Hall	Maude Meisel	4	22/21
HUMA 1001	021/95946	M W 6:10pm - 8:00pm 201 80 Claremont	Joseph Blankholm	4	22/22
HUMA 1001	022/96248	M W 6:10pm - 8:00pm C01 80 Claremont	Audrey Walton	4	21/21
HUMA 1001	023/96496	M W 6:10pm - 8:00pm 306 Hamilton Hall	Pier Mattia Tommasino	4	22/22
HUMA 1001	024/96746	T Th 9:00am - 10:50am 111 Carman Hall	Hiie Saumaa	4	22/21
HUMA 1001	025/97046	T Th 9:00am - 10:50am 302 Fayerweather	Johanna Urzedowski	4	21/22

HUMA 1001	026/97346	T Th 9:00am - 10:50am	Samuel North	4	21/21	HUMA 1001	055/18046	T Th 6:10pm - 8:00pm	Jude Webre	4	22/22
		306 Hamilton Hall						206 Broadway Residence Hall			
HUMA 1001	027/97697	T Th 9:00am - 10:50am	Rebecca Stanton	4	22/22	HUMA 1001	056/18396	T Th 6:10pm - 8:00pm	Maxwell Uphaus	4	19/21
		302 Hamilton Hall						109 Hartley Hall			
HUMA 1001	028/97997	T Th 9:00am - 10:50am	Jeffrey Wayno	4	20/21	HUMA 1001	057/18646	T Th 6:10pm - 8:00pm	Yvonne Zivkovic	4	22/22
		602 Northwest Corner						111 Carman Hall			
HUMA 1001	029/98296	T Th 9:00am - 10:50am	Tatiana Smoliarova	4	22/22	HUMA 1001	061/60784	T Th 6:10pm - 8:00pm	Maria Doubrovskaia	4	20/22
		607 Hamilton Hall						302 Hamilton Hall			
HUMA 1001	030/98546	T Th 9:00am - 10:50am	Ross Ufberg	4	22/21	<b>HUMA C1002 Masterpieces of Western Literature and Philosophy. 4 points.</b>					
		304 Hamilton Hall				Prerequisites: NULL					
HUMA 1001	031/75030	T Th 11:00am - 12:50pm	Grace Delmolino	4	21/22	Corequisites: NULL					
		607 Hamilton Hall				<i>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.</i> 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					
HUMA 1001	032/76281	T Th 11:00am - 12:50pm	Timothy Donahue	4	21/21	<b>Spring 2015: HUMA C1002</b>					
		109 Hartley Hall				<b>Course Number</b>	<b>Section/ Call Number</b>	<b>Times/Location</b>	<b>Instructor</b>	<b>Points</b>	<b>Enrollment</b>
HUMA 1001	033/77529	T Th 11:00am - 12:50pm	Sharon Fulton	4	20/22	HUMA 1002	001/13246	M W 9:00am - 10:50am	Lydia Goehr	4	22/21
		304 Hamilton Hall						609 Hamilton Hall			
HUMA 1001	034/78779	T Th 11:00am - 12:50pm	Peter Pouncey, Elina Yuffa	4	22/21	HUMA 1002	002/13696	M W 9:00am - 10:50am	Gareth Williams	4	22/21
		301 Hamilton Hall						613 Hamilton Hall			
HUMA 1001	035/80281	T Th 11:00am - 12:50pm	Anne Holt	4	22/22	HUMA 1002	003/15996	M W 9:00am - 10:50am	Nancy Workman	4	21/21
		206 Broadway Residence Hall						306 Hamilton Hall			
HUMA 1001	036/81530	T Th 11:00am - 12:50pm	Akash Kumar	4	22/21	HUMA 1002	004/16299	M W 9:00am - 10:50am	Samuel North	4	22/21
		306 Hamilton Hall						318 Hamilton Hall			
HUMA 1001	037/82780	T Th 11:00am - 12:50pm	Katja Lindskog	4	21/22	HUMA 1002	005/16646	M W 9:00am - 10:50am	Mark Mazower	4	23/21
		C01 80 Claremont						302 Hamilton Hall			
HUMA 1001	038/84780	T Th 11:00am - 12:50pm	Nicholas Dames	4	22/21	HUMA 1002	006/16946	M W 2:10pm - 4:00pm	Richard Sacks	4	22/21
		309 Hamilton Hall						511 Hamilton Hall			
HUMA 1001	039/88029	T Th 11:00am - 12:50pm	Hiie Saumaa	4	22/22	HUMA 1002	007/17396	M W 2:10pm - 4:00pm	Jennifer Rhodes	4	22/21
		111 Carman Hall						602 Northwest Corner			
HUMA 1001	040/14279	T Th 11:00am - 12:50pm	Lucas Kwong	4	20/21	HUMA 1002	008/17846	M W 2:10pm - 4:00pm	Patricia Grieve	4	22/21
		222 Pupin Laboratories						304 Hamilton Hall			
HUMA 1001	041/10996	T Th 11:00am - 12:50pm	Steven Baker	4	20/22	HUMA 1002	009/18296	M W 2:10pm - 4:00pm	Darragh Martin	4	22/21
		602 Northwest Corner						509 Hamilton Hall			
HUMA 1001	042/11296	T Th 2:10pm - 4:00pm	Molly Murray	4	22/21	HUMA 1002	010/18547	M W 2:10pm - 4:00pm	James Adams	4	22/21
		304 Hamilton Hall						303 Hamilton Hall			
HUMA 1001	043/12747	T Th 2:10pm - 4:00pm	Katja Lindskog	4	22/22	HUMA 1002	011/20847	M W 2:10pm - 4:00pm	Anne Diebel	4	22/21
		C01 80 Claremont						309 Hamilton Hall			
HUMA 1001	044/13048	T Th 2:10pm - 4:00pm	Anne Holt	4	21/21	HUMA 1002	012/21098	M W 2:10pm - 4:00pm	Robert Thomas	4	22/21
		222 Pupin Laboratories						224 Pupin Laboratories			
HUMA 1001	045/13296	T Th 2:10pm - 4:00pm	Sharon Fulton	4	22/22	HUMA 1002	013/29029	M W 2:10pm - 4:00pm	Liza Knapp	4	22/21
		616 Hamilton Hall						609 Hamilton Hall			
HUMA 1001	046/13546	T Th 2:10pm - 4:00pm	Elisabeth Ladenson	4	18/21	HUMA 1002	014/22193	M W 4:10pm - 6:00pm	Elizabeth Marcus	4	21/21
		303 Hamilton Hall						509 Hamilton Hall			
HUMA 1001	047/15796	T Th 2:10pm - 4:00pm	Julie Crawford	4	21/22	HUMA 1002	015/28443	M W 4:10pm - 6:00pm	Seth Kimmel	4	21/21
		511 Hamilton Hall						318 Hamilton Hall			
HUMA 1001	048/16096	T Th 2:10pm - 4:00pm	Austin Graham	4	21/21	HUMA 1002	016/23318	M W 4:10pm - 6:00pm	Anne Diebel	4	22/21
		302 Hamilton Hall						309 Hamilton Hall			
HUMA 1001	049/16396	T Th 4:10pm - 6:00pm	Janet Lee	4	22/22						
		109 Hartley Hall									
HUMA 1001	050/16646	T Th 4:10pm - 6:00pm	Sahar Ullah	4	21/21						
		303 Hamilton Hall									
HUMA 1001	051/16946	T Th 4:10pm - 6:00pm	Katharine McIntyre	4	22/22						
		316 Hamilton Hall									
HUMA 1001	052/17198	T Th 4:10pm - 6:00pm	Grant Wythoff	4	22/21						
		511 Hamilton Hall									
HUMA 1001	053/17497	T Th 4:10pm - 6:00pm	Rashmi Sahni	4	22/22						
		304 Hamilton Hall									
HUMA 1001	054/17747	T Th 4:10pm - 6:00pm	Akash Kumar	4	22/21						
		407 Hamilton Hall									

HUMA 1002	017/88006	M W 4:10pm - 6:00pm	Emily Shortslef	4	21/21	HUMA 1002	047/73317	T Th 2:10pm - 4:00pm	Julie Crawford	4	22/21
HUMA 1002	018/73047	M W 4:10pm - 6:00pm	Darragh Martin	4	22/21	HUMA 1002	048/60822	T Th 2:10pm - 4:00pm	Austin Graham	4	22/21
HUMA 1002	019/77896	M W 4:10pm - 6:00pm	Frederick Bengtsson	4	22/21	HUMA 1002	049/67192	T Th 4:10pm - 6:00pm	Janet Lee	4	22/21
HUMA 1002	020/78247	M W 6:10pm - 8:00pm	Maude Meisel	4	22/21	HUMA 1002	050/60530	T Th 4:10pm - 6:00pm	Sahar Ullah	4	21/21
HUMA 1002	021/81496	M W 6:10pm - 8:00pm	Joseph Blankholm	4	22/21	HUMA 1002	051/83279	T Th 4:10pm - 6:00pm	Katharine McIntyre	4	22/21
HUMA 1002	022/81749	M W 6:10pm - 8:00pm	Audrey Walton	4	21/21	HUMA 1002	052/85029	T Th 4:10pm - 6:00pm	David Yerkes	4	22/21
HUMA 1002	023/81996	M W 6:10pm - 8:00pm	Pier Mattia Tommasino	4	21/21	HUMA 1002	053/86279	T Th 4:10pm - 6:00pm	Rashmi Sahni	4	22/21
HUMA 1002	024/21396	T Th 9:00am - 10:50am	Hiie Saumaa	4	22/21	HUMA 1002	054/87779	T Th 4:10pm - 6:00pm	Akash Kumar	4	22/21
HUMA 1002	025/21796	T Th 9:00am - 10:50am	Johanna Urzedowski	4	22/21	HUMA 1002	055/89029	T Th 6:10pm - 8:00pm	Jude Webre	4	22/21
HUMA 1002	026/22197	T Th 9:00am - 10:50am	Samuel North	4	22/21	HUMA 1002	056/73442	T Th 6:10pm - 8:00pm	Maxwell Uphaus	4	22/21
HUMA 1002	027/22546	T Th 9:00am - 10:50am	Rebecca Stanton	4	22/21	HUMA 1002	057/83442	T Th 6:10pm - 8:00pm	Yvonne Zivkovic	4	21/21
HUMA 1002	028/22846	T Th 9:00am - 10:50am	Jeffrey Wayno	4	22/21	HUMA 1002	061/93443	T Th 6:10pm - 8:00pm	Maria Doubrovskaia	4	22/21
HUMA 1002	029/23096	T Th 9:00am - 10:50am	Tatiana Smoliarova	4	22/21						
HUMA 1002	030/23396	T Th 9:00am - 10:50am	Ross Ufberg	4	22/21						
HUMA 1002	031/23647	T Th 11:00am - 12:50pm	Grace Delmolino	4	21/21						
HUMA 1002	032/25996	T Th 11:00am - 12:50pm	Timothy Donahue	4	21/21						
HUMA 1002	033/26646	T Th 11:00am - 12:50pm	John Collins	4	21/21						
HUMA 1002	034/26896	T Th 11:00am - 12:50pm	Isabelle Levy	4	21/21						
HUMA 1002	035/27396	T Th 11:00am - 12:50pm	Anne Holt	4	21/21						
HUMA 1002	036/28496	T Th 11:00am - 12:50pm	Akash Kumar	4	22/21						
HUMA 1002	037/25029	T Th 11:00am - 12:50pm	Katja Lindskog	4	21/21						
HUMA 1002	038/26779	T Th 11:00am - 12:50pm	Edward Mendelson	4	22/21						
HUMA 1002	039/28280	T Th 11:00am - 12:50pm	Hiie Saumaa	4	21/21						
HUMA 1002	040/29779	T Th 11:00am - 12:50pm	Lucas Kwong	4	15/21						
HUMA 1002	041/29570	T Th 11:00am - 12:50pm	Steven Baker	4	22/21						
HUMA 1002	042/88007	T Th 2:10pm - 4:00pm	Molly Murray	4	22/21						
HUMA 1002	043/63005	T Th 2:10pm - 4:00pm	Katja Lindskog	4	22/21						
HUMA 1002	044/64691	T Th 2:10pm - 4:00pm	Anne Holt	4	22/21						
HUMA 1002	045/25943	T Th 2:10pm - 4:00pm	David Yerkes	4	22/21						
HUMA 1002	046/92069	T Th 2:10pm - 4:00pm	Sandra Prior	4	22/21						

## CONTEMPORARY CIVILIZATION

**Chair of Contemporary Civilization:** Prof. Matthew L. Jones, 514 Fayerweather; 212-854-2421

Contemporary Civilization Website (<http://www.college.columbia.edu/core/conciv>)

*COCI C1101 Introduction To Contemporary Civilization-COCI C1102 Introduction To Contemporary Civilization.* 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 Introduction To Contemporary Civilization- COCI C1102 Introduction To Contemporary Civilization* 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 Introduction To Contemporary Civilization. 4 points.**

*Taught by members of the Departments of Anthropology, Classics, English and Comparative Literature, French, German, History, Middle East and Asian Languages and Cultures, Philosophy, Political Science, Religion, Slavic Languages, and Sociology; and members of the Society of Fellows.* A study in their historical context of major contributions to the intellectual traditions that underpin contemporary civilization. Emphasis is on the history of political, social, and philosophical thought. Students are expected to write at least three papers to complete two examinations, and to participate actively in class discussions

#### **Fall 2014: COCI C1101**

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
COCI 1101	001/13598	M W 9:00am - 10:50am 313 Hamilton Hall	Emily Yao	4	20/21
COCI 1101	002/15997	M W 9:00am - 10:50am 111 Carman Hall	Mark Berger	4	21/22
COCI 1101	003/16296	M W 9:00am - 10:50am 109 Hartley Hall	Tolga Kobas	4	22/21
COCI 1101	004/16596	M W 9:00am - 10:50am 206 Broadway Residence Hall	Charles McNamara	4	21/22
COCI 1101	005/16947	M W 9:00am - 10:50am 301 Hamilton Hall	Michael Stanislawski	4	21/21

COCI 1101	006/17248	M W 11:00am - 12:50pm 302 Hamilton Hall	Dan-el Peralta	4	22/22
COCI 1101	007/17696	M W 11:00am - 12:50pm 425 Pupin Laboratories	Yogesh Chandrani	4	18/21
COCI 1101	008/17996	M W 11:00am - 12:50pm 306 Hamilton Hall	Mana Kia	4	22/22
COCI 1101	009/18246	M W 11:00am - 12:50pm 304 Hamilton Hall	Adam Reich	4	21/21
COCI 1101	010/18546	M W 11:00am - 12:50pm 111 Carman Hall	Ajay Chaudhary	4	22/22
COCI 1101	011/20796	M W 11:00am - 12:50pm 318 Hamilton Hall	Malgorzata Mazurek	4	21/21
COCI 1101	012/21097	M W 11:00am - 12:50pm 301 Hamilton Hall	Bronwen McShea	4	19/22
COCI 1101	013/21397	M W 11:00am - 12:50pm 109 Hartley Hall	Andreas Avgousti	4	21/21
COCI 1101	014/21646	M W 11:00am - 12:50pm 206 Broadway Residence Hall	Michael Stevenson	4	22/22
COCI 1101	015/21947	M W 2:10pm - 4:00pm 301 Hamilton Hall	Dennis Tenen	4	21/21
COCI 1101	016/22296	M W 2:10pm - 4:00pm 109 Hartley Hall	Jennifer Rudd	4	22/22
COCI 1101	017/22548	M W 2:10pm - 4:00pm 306 Hamilton Hall	Luke MacInnis	4	22/21
COCI 1101	018/22796	M W 2:10pm - 4:00pm 302 Hamilton Hall	Andrew Nathan	4	22/22
COCI 1101	019/23647	M W 2:10pm - 4:00pm 509 Hamilton Hall	David Johnston	4	22/21
COCI 1101	020/25896	M W 2:10pm - 4:00pm 206 Broadway Residence Hall	Heather Ohaneson	4	22/22
COCI 1101	021/26146	M W 2:10pm - 4:00pm 111 Carman Hall	Beau Shaw	4	22/21
COCI 1101	022/26397	M W 2:10pm - 4:00pm 601b Fairchild Life Sciences Bldg	Ajay Chaudhary	4	22/22
COCI 1101	023/26696	M W 4:10pm - 6:00pm 109 Hartley Hall	Yohann Ripert	4	21/21
COCI 1101	024/27046	M W 4:10pm - 6:00pm 301 Hamilton Hall	Peter Pazzagliani	4	22/22
COCI 1101	025/27347	M W 4:10pm - 6:00pm 413 Hamilton Hall	Damon Horowitz	4	21/21
COCI 1101	026/27646	M W 4:10pm - 6:00pm 206 Broadway Residence Hall	Heather Ohaneson	4	22/22
COCI 1101	027/27897	M W 4:10pm - 6:00pm 616 Hamilton Hall	Katharina Ivanyi	4	21/21
COCI 1101	028/28197	M W 4:10pm - 6:00pm 111 Carman Hall	Beau Shaw	4	22/22
COCI 1101	029/28647	M W 4:10pm - 6:00pm 306 Hamilton Hall	Luke MacInnis	4	21/21
COCI 1101	030/25280	M W 4:10pm - 6:00pm 302 Hamilton Hall	Yogesh Chandrani	4	22/22
COCI 1101	031/26532	M W 4:10pm - 6:00pm 411 Hamilton Hall	Karen Benezra	4	19/21
COCI 1101	032/28029	M W 4:10pm - 6:00pm 303 Hamilton Hall	Irene SanPietro	4	22/22
COCI 1101	033/29279	M W 6:10pm - 8:00pm 301 Hamilton Hall	Jennifer Rudd	4	22/21
COCI 1101	034/23442	M W 6:10pm - 8:00pm	Asheesh Siddique	4	22/22



		206 Broadway Residence Hall				
COCI 1101	035/25507	T Th 9:00am - 10:50am 109 Hartley Hall	Mathias Hanses	4	22/21	
COCI 1101	036/75506	T Th 9:00am - 10:50am 301 Hamilton Hall	Evan Neely	4	22/22	
COCI 1101	037/13004	T Th 9:00am - 10:50am 433 Horace Mann Hall	Nicole Callahan	4	21/21	
COCI 1101	038/92066	T Th 9:00am - 10:50am 206 Broadway Residence Hall	Porter Williams	4	21/22	
COCI 1101	039/62191	T Th 9:00am - 10:50am 309 Hamilton Hall	Charly Coleman	4	21/21	
COCI 1101	040/24692	T Th 2:10pm - 4:00pm 301 Hamilton Hall	E. Valentine Daniel	4	21/22	
COCI 1101	041/63030	T Th 2:10pm - 4:00pm 109 Hartley Hall	Kevin Elliott	4	20/21	
COCI 1101	042/64532	T Th 2:10pm - 4:00pm 111 Carman Hall	Alheli Alvarado-Diaz	4	22/22	
COCI 1101	043/76282	T Th 2:10pm - 4:00pm 206 Broadway Residence Hall	Jay Shuttleworth	4	21/21	
COCI 1101	044/77780	T Th 2:10pm - 4:00pm 306 Hamilton Hall	Susan Pedersen	4	21/22	
COCI 1101	045/79031	T Th 2:10pm - 4:00pm 318 Hamilton Hall	Carol Rovane	4	22/21	
COCI 1101	046/80530	T Th 2:10pm - 4:00pm 424 Pupin Laboratories	Stephanie Ramsey	4	21/22	
COCI 1101	047/81780	T Th 2:10pm - 4:00pm 313 Pupin Laboratories	Jenny Boulboulle	4	21/21	
COCI 1101	048/83029	T Th 2:10pm - 4:00pm 224 Pupin Laboratories	Donna Bilak	4	21/22	
COCI 1101	049/84531	T Th 4:10pm - 6:00pm 301 Hamilton Hall	Douglas Chalmers	4	22/21	
COCI 1101	050/86279	T Th 4:10pm - 6:00pm 206 Broadway Residence Hall	Veli Yasin	4	22/22	
COCI 1101	051/87781	T Th 4:10pm - 6:00pm 601b Fairchild Life Sciences Bldg	Samuel Biagetti	4	20/21	
COCI 1101	052/89029	T Th 4:10pm - 6:00pm 111 Carman Hall	Liane Carlson	4	22/22	
COCI 1101	053/74691	T Th 4:10pm - 6:00pm 509 Hamilton Hall	Richard John	4	22/21	
COCI 1101	054/82191	T Th 4:10pm - 6:00pm 306 Hamilton Hall	Joaquin Barriendos	4	22/22	
COCI 1101	055/89691	T Th 4:10pm - 6:00pm 609 Hamilton Hall	Jay Gundacker	4	21/21	
COCI 1101	056/95941	T Th 4:10pm - 6:00pm 302 Hamilton Hall	Murad Idris	4	22/22	
COCI 1101	057/88008	T Th 4:10pm - 6:00pm 318 Hamilton Hall	Alexander Gil	4	21/21	
COCI 1101	058/10941	T Th 6:10pm - 8:00pm 607 Hamilton Hall	Justin Clarke-Doane	4	21/22	
COCI 1101	059/19691	T Th 6:10pm - 8:00pm 301 Hamilton Hall	Jeremy Forster	4	21/21	

**COCI C1102 Introduction To Contemporary Civilization.**  
**4 points.**

*Taught by members of the Departments of Anthropology, Classics, English and Comparative Literature, French, German, History, Middle East and Asian Languages and Cultures, Philosophy, Political Science, Religion, Slavic Languages, and Sociology; and members of the Society of Fellows.* A study in their historical context of major contributions to the intellectual traditions that underpin contemporary civilization. Emphasis is on the history of political, social, and philosophical thought. Students are expected to write at least three papers to complete two examinations, and to participate actively in class discussions

**Spring 2015: COCI C1102**

Course Number	Section/ Call Number	Times/Location	Instructor	Points	Enrollment
COCI 1102	001/24694	M W 9:00am - 10:50am 313 Hamilton Hall	Emily Yao	4	21/21
COCI 1102	002/60823	M W 9:00am - 10:50am 111 Carman Hall	Mark Berger	4	22/21
COCI 1102	003/69259	M W 9:00am - 10:50am 109 Hartley Hall	Tolga Kobas	4	20/21
COCI 1102	004/73319	M W 9:00am - 10:50am 206 Broadway Residence Hall	Charles McNamara	4	17/21
COCI 1102	005/92070	M W 9:00am - 10:50am 301 Hamilton Hall	Michael Stanislawski	4	21/21
COCI 1102	006/60279	M W 11:00am - 12:50pm 302 Hamilton Hall	Adam Kosto	4	21/21
COCI 1102	007/81246	M W 11:00am - 12:50pm 425 Pupin Laboratories	Yogesh Chandrani	4	21/21
COCI 1102	008/81646	M W 11:00am - 12:50pm 306 Hamilton Hall	Mana Kia	4	22/21
COCI 1102	009/81997	M W 11:00am - 12:50pm 304 Hamilton Hall	Jessica Kimpell	4	21/21
COCI 1102	010/82346	M W 11:00am - 12:50pm 111 Carman Hall	Ajay Chaudhary	4	22/21
COCI 1102	011/82646	M W 11:00am - 12:50pm 318 Hamilton Hall	Malgorzata Mazurek	4	22/21
COCI 1102	012/82947	M W 11:00am - 12:50pm 301 Hamilton Hall	Victoria De Grazia	4	21/21
COCI 1102	013/83246	M W 11:00am - 12:50pm 109 Hartley Hall	Andreas Avgousti	4	20/21
COCI 1102	014/83546	M W 11:00am - 12:50pm 206 Broadway Residence Hall	Michael Stevenson	4	20/21
COCI 1102	015/85946	M W 2:10pm - 4:00pm 301 Hamilton Hall	Dennis Tenen	4	22/21
COCI 1102	016/86196	M W 2:10pm - 4:00pm 109 Hartley Hall	Jennifer Rudd	4	22/21
COCI 1102	017/86446	M W 2:10pm - 4:00pm 306 Hamilton Hall	Luke MacInnis	4	22/21
COCI 1102	018/12797	M W 2:10pm - 4:00pm 302 Hamilton Hall	Jean Cohen	4	22/21
COCI 1102	019/13247	M W 2:10pm - 4:00pm C01 80 Claremont	Justin Reynolds	4	20/21
COCI 1102	020/13546	M W 2:10pm - 4:00pm 206 Broadway Residence Hall	Heather Ohaneson	4	21/21
COCI 1102	021/15796	M W 2:10pm - 4:00pm 111 Carman Hall	Beau Shaw	4	22/21
COCI 1102	022/16146	M W 2:10pm - 4:00pm	Ajay Chaudhary	4	22/21





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 points.

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.

#### Fall 2014: HUMA W1121

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
HUMA 1121	001/21994	M W 8:40am - 9:55am 604 Schermerhorn Hall	Olivia Powell	3	22/21
HUMA 1121	002/10916	M W 8:40am - 9:55am 607 Schermerhorn Hall	Carrie Cushman	3	20/21
HUMA 1121	003/77080	M W 8:40am - 9:55am 608 Schermerhorn Hall	Lindsay Cook	3	21/21
HUMA 1121	004/17176	M W 10:10am - 11:25am 604 Schermerhorn Hall	Holger Klein	3	21/21
HUMA 1121	005/25659	M W 10:10am - 11:25am 607 Schermerhorn Hall	Eliza Butler	3	22/21
HUMA 1121	006/20156	M W 10:10am - 11:25am 608 Schermerhorn Hall	Catherine Girard	3	21/21
HUMA 1121	007/75667	M W 11:40am - 12:55pm 604 Schermerhorn Hall	Gillian Young	3	22/21
HUMA 1121	008/61583	M W 11:40am - 12:55pm 607 Schermerhorn Hall	Jessica Maratsos	3	22/21
HUMA 1121	009/23331	M W 11:40am - 12:55pm 608 Schermerhorn Hall	Leah Pires	3	22/21
HUMA 1121	010/20641	M W 1:10pm - 2:25pm 604 Schermerhorn Hall	Sarah Schaefer	3	22/21
HUMA 1121	011/74040	M W 1:10pm - 2:25pm 607 Schermerhorn Hall	Jessica Maratsos	3	22/21
HUMA 1121	012/69914	M W 1:10pm - 2:25pm 608 Schermerhorn Hall	Maggie Meng Cao	3	21/21
HUMA 1121	013/12024	M W 2:40pm - 3:55pm 604 Schermerhorn Hall	Sarah Schaefer	3	21/21
HUMA 1121	014/19353	M W 2:40pm - 3:55pm 607 Schermerhorn Hall	Anastassia Botchkareva	3	21/21
HUMA 1121	015/62985	M W 2:40pm - 3:55pm 608 Schermerhorn Hall	Sonia Coman	3	21/21
HUMA 1121	016/29536	M W 4:10pm - 5:25pm 604 Schermerhorn Hall	Catherine Damman	3	21/21
HUMA 1121	017/16002	M W 4:10pm - 5:25pm 607 Schermerhorn Hall	Irina Oryshkevich	3	21/21
HUMA 1121	018/60186	M W 4:10pm - 5:25pm 608 Schermerhorn Hall	Elizabeth Gollnick	3	20/21
HUMA 1121	019/14518	T Th 8:40am - 9:55am 604 Schermerhorn Hall	Molly Allen	3	21/21
HUMA 1121	020/75008	T Th 8:40am - 9:55am 607 Schermerhorn Hall	Arathi Menon	3	20/21
HUMA 1121	021/20109	T Th 8:40am - 9:55am 608 Schermerhorn Hall	Page Knox	3	20/21
HUMA 1121	022/27725	T Th 10:10am - 11:25am 604 Schermerhorn Hall	Marie-Stephanie Delamaire	3	20/21
HUMA 1121	023/77416	T Th 10:10am - 11:25am 607 Schermerhorn Hall	Joseph Ackley	3	20/21

HUMA 1121	024/26370	T Th 10:10am - 11:25am 608 Schermerhorn Hall	Page Knox	3	20/21
HUMA 1121	025/73932	T Th 11:40am - 12:55pm 604 Schermerhorn Hall	Marie-Stephanie Delamaire	3	20/21
HUMA 1121	026/72661	T Th 11:40am - 12:55pm 607 Schermerhorn Hall	Veronica White	3	20/21
HUMA 1121	027/68328	T Th 11:40am - 12:55pm 608 Schermerhorn Hall	Marsely Kehoe	3	22/21
HUMA 1121	028/12081	T Th 2:40pm - 3:55pm 604 Schermerhorn Hall	Frederique Baumgartner	3	21/21
HUMA 1121	029/10222	T Th 2:40pm - 3:55pm 607 Schermerhorn Hall	Branden Joseph	3	21/21
HUMA 1121	030/22513	T Th 2:40pm - 3:55pm 608 Schermerhorn Hall	Susan Sivard	3	20/21
HUMA 1121	031/72877	T Th 4:10pm - 5:25pm 604 Schermerhorn Hall	Sofia Gans	3	19/21
HUMA 1121	032/29128	T Th 4:10pm - 5:25pm 607 Schermerhorn Hall	Andrea Vazquez de Arthur	3	19/21
HUMA 1121	033/64588	T Th 4:10pm - 5:25pm 832 Schermerhorn Hall	Lorenzo Buonanno	3	21/21
HUMA 1121	034/73803	T Th 5:40pm - 6:55pm 604 Schermerhorn Hall	James Chamberlain	3	21/21
HUMA 1121	035/69473	T Th 5:40pm - 6:55pm 607 Schermerhorn Hall	Matthew Teti	3	18/21
HUMA 1121	036/73559	T Th 5:40pm - 6:55pm 608 Schermerhorn Hall	Lucas Cohen	3	19/21
HUMA 1121	037/66178	T Th 7:10pm - 8:25pm 604 Schermerhorn Hall	Clare Kobasa	3	19/21
HUMA 1121	038/23664	T Th 7:10pm - 8:25pm 607 Schermerhorn Hall	Alvaro Luis Lima	3	20/21
HUMA 1121	039/85905	M W 5:40pm - 6:55pm 607 Schermerhorn Hall	Caitlin Beach	3	20/21
HUMA 1121	040/95854	T Th 4:10pm - 5:25pm 930 Schermerhorn Hall	Susan Sivard	3	20/21
HUMA 1121	041/81537	T Th 10:10am - 11:25am 832 Schermerhorn Hall	Diane Bodart	3	22/21
HUMA 1121	042/15900	T Th 1:10pm - 2:25pm 604 Schermerhorn Hall	Lorenzo Buonanno	3	21/21
HUMA 1121	043/11447	M W 7:10pm - 8:25pm 604 Schermerhorn Hall	Connie Choi	3	20/21
HUMA 1121	044/65968	T Th 7:10pm - 8:25pm 608 Schermerhorn Hall	Kathryn Chiong	3	22/21

#### Spring 2015: HUMA W1121

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
HUMA 1121	001/77029	M W 8:40am - 9:55am 604 Schermerhorn Hall	Olivia Powell	3	22/21
HUMA 1121	002/62589	M W 8:40am - 9:55am 607 Schermerhorn Hall	Clare Kobasa	3	21/21
HUMA 1121	003/13225	M W 8:40am - 9:55am 608 Schermerhorn Hall	Lindsay Cook	3	21/21
HUMA 1121	004/71229	M W 10:10am - 11:25am 604 Schermerhorn Hall	Dawn Delbanco	3	22/21
HUMA 1121	005/23039	M W 10:10am - 11:25am 607 Schermerhorn Hall	Joseph Ackley	3	21/21
HUMA 1121	006/23208	M W 10:10am - 11:25am 608 Schermerhorn Hall	Carolina Mangone	3	20/21
HUMA 1121	007/15569	M W 11:40am - 12:55pm 604 Schermerhorn Hall	Gale Berninghausen	3	22/21

HUMA 1121	008/60533	M W 11:40am - 12:55pm	Jessica Maratsos	3	22/21	HUMA 1121	037/20740	T Th 4:10pm - 5:25pm	Susan Sivard	3	22/21
HUMA 1121	009/28118	M W 11:40am - 12:55pm	Amara Magloughlin	3	22/21	HUMA 1121	038/67065	T Th 5:40pm - 6:55pm	Kathryn Chiong	3	20/21
HUMA 1121	010/20190	M W 1:10pm - 2:25pm	Sarah Schaefer	3	21/21	HUMA 1121	039/83602	T Th 5:40pm - 6:55pm	Irina Oryshkevich	3	21/21
HUMA 1121	011/26862	M W 1:10pm - 2:25pm	Jessica Maratsos	3	21/21	HUMA 1121	040/87798	T Th 5:40pm - 6:55pm	Alvaro Luis Lima	3	21/21
HUMA 1121	012/24562	M W 1:10pm - 2:25pm	Lorenzo Buonanno	3	21/21	HUMA 1121	041/92197	T Th 7:10pm - 8:25pm	Kathryn Chiong	3	22/21
HUMA 1121	013/71990	M W 2:40pm - 3:55pm	Sarah Schaefer	3	22/21	HUMA 1121	042/62700	T Th 8:40am - 9:55am	Martina Mims	3	20/21
HUMA 1121	014/22531	M W 2:40pm - 3:55pm	Sonia Coman	3	21/21						
HUMA 1121	015/10641	M W 2:40pm - 3:55pm	Lorenzo Buonanno	3	21/21						
HUMA 1121	016/18693	M W 4:10pm - 5:25pm	Caitlin Beach	3	21/21						
HUMA 1121	017/21711	M W 4:10pm - 5:25pm	Anastassia Botchkareva	3	21/21						
HUMA 1121	018/75423	M W 4:10pm - 5:25pm	Elizabeth Gollnick	3	19/21						
HUMA 1121	019/64636	M W 5:40pm - 6:55pm	Lucas Cohen	3	21/21						
HUMA 1121	020/63648	T Th 8:40am - 9:55am	Molly Allen	3	19/21						
HUMA 1121	021/22582	T Th 8:40am - 9:55am	Carrie Cushman	3	21/21						
HUMA 1121	022/76090	T Th 8:40am - 9:55am	Page Knox	3	21/21						
HUMA 1121	023/26731	T Th 10:10am - 11:25am	Marie-Stephanie Delamaire	3	21/21						
HUMA 1121	024/63867	T Th 10:10am - 11:25am	Eliza Butler	3	22/21						
HUMA 1121	025/77182	T Th 10:10am - 11:25am	Page Knox	3	22/21						
HUMA 1121	026/17247	T Th 11:40am - 12:55pm	Marie-Stephanie Delamaire	3	21/21						
HUMA 1121	027/73956	T Th 11:40am - 12:55pm	Caroline Wamsler	3	21/21						
HUMA 1121	028/14476	T Th 11:40am - 12:55pm	Leah Pires	3	22/21						
HUMA 1121	029/76588	T Th 1:10pm - 2:25pm	Martina Mims	3	20/21						
HUMA 1121	030/10663	T Th 1:10pm - 2:25pm	Andrea Vazquez de Arthur	3	22/21						
HUMA 1121	031/66583	T Th 1:10pm - 2:25pm	Thomas Campbell	3	21/21						
HUMA 1121	032/75305	T Th 2:40pm - 3:55pm	Catherine Damman	3	22/21						
HUMA 1121	033/70506	T Th 2:40pm - 3:55pm	Sofia Gans	3	21/21						
HUMA 1121	034/11482	T Th 2:40pm - 3:55pm	Susan Sivard	3	22/21						
HUMA 1121	035/24622	T Th 4:10pm - 5:25pm	Matthew Teti	3	21/21						
HUMA 1121	036/20503	T Th 4:10pm - 5:25pm	Gillian Young	3	20/21						

## MUSIC HUMANITIES

**Chair of Music Humanities (fall):** Prof. Elaine R. Sisman, 604 Dodge Hall; 212-854-7728

**Chair of Music Humanities (spring):** Prof. Walter Frisch, 613 Dodge Hall; 212-854-1256

Music Humanities Website (<http://www.college.columbia.edu/core/classes/mh.php>)

*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 Masterpieces of Western Music. 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 points.**

Analysis and discussion of representative works from the Middle Ages to the present.

**Fall 2014: HUMA W1123**

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
HUMA 1123	001/24164	M W 8:40am - 9:55am 404 Dodge Building	Maja Cerar	3	23/24
HUMA 1123	002/75459	M W 8:40am - 9:55am 405 Dodge Building	Rodolfo Toledo	3	24/24
HUMA 1123	003/60009	M W 8:40am - 9:55am 622 Dodge Building	Mark DeBellis	3	19/24
HUMA 1123	004/77192	M W 8:40am - 9:55am 620 Dodge Building	David Adamcyk	3	21/24
HUMA 1123	005/15405	M W 8:40am - 9:55am 716 Hamilton Hall	Ruth Longobardi	3	24/24
HUMA 1123	006/27777	M W 10:10am - 11:25am 404 Dodge Building	Paula Harper	3	24/24
HUMA 1123	007/27552	M W 10:10am - 11:25am 405 Dodge Building	Rebecca Kim	3	22/24
HUMA 1123	008/25434	M W 10:10am - 11:25am 622 Dodge Building	Martha Newland	3	25/24
HUMA 1123	009/11759	M W 10:10am - 11:25am 716 Hamilton Hall	Amanda Scherbenske	3	23/24
HUMA 1123	010/16623	M W 1:10pm - 2:25pm 404 Dodge Building	Sophia Di Castri	3	22/24
HUMA 1123	011/74836	M W 1:10pm - 2:25pm 716 Hamilton Hall	Laura Weber	3	23/24
HUMA 1123	012/21141	M W 4:10pm - 5:25pm 404 Dodge Building	Joshua Mailman	3	17/24
HUMA 1123	013/72049	M W 4:10pm - 5:25pm 405 Dodge Building	Edgardo Salinas	3	23/24
HUMA 1123	014/68118	M W 4:10pm - 5:25pm 716 Hamilton Hall	Ryan Pratt	3	24/24
HUMA 1123	015/67222	M W 6:10pm - 7:25pm 404 Dodge Building	James Steichen	3	23/24
HUMA 1123	016/65492	M W 6:10pm - 7:25pm 405 Dodge Building	Marilyn McCoy	3	23/24
HUMA 1123	017/23185	M W 6:10pm - 7:25pm 716 Hamilton Hall	Christopher Buchenholz	3	24/24
HUMA 1123	018/75567	T Th 8:40am - 9:55am 404 Dodge Building	Mahir Cetiz	3	25/24
HUMA 1123	019/74818	T Th 8:40am - 9:55am 405 Dodge Building	Lucie Vagnerova	3	24/24
HUMA 1123	020/66400	T Th 8:40am - 9:55am 622 Dodge Building	Ashley Nail	3	22/24
HUMA 1123	021/27875	T Th 8:40am - 9:55am 716 Hamilton Hall	Andrew Kaye	3	23/24
HUMA 1123	022/68705	T Th 10:10am - 11:25am 404 Dodge Building	Mario Diaz de Leon	3	23/24
HUMA 1123	023/70315	T Th 10:10am - 11:25am 405 Dodge Building	Magdalena Baczewska	3	25/24
HUMA 1123	024/20477	T Th 10:10am - 11:25am 622 Dodge Building	Ashley Nail	3	24/24
HUMA 1123	025/28906	T Th 10:10am - 11:25am 716 Hamilton Hall	Yoshiaki Onishi	3	24/24
HUMA 1123	026/14083	T Th 1:10pm - 2:25pm 405 Dodge Building	Ramin Amir Arjomand	3	23/24

HUMA 1123	027/70913	T Th 1:10pm - 2:25pm 622 Dodge Building	Ashley Fure	3	23/24
HUMA 1123	028/16774	T Th 1:10pm - 2:25pm 716 Hamilton Hall	Mary Robb	3	23/24
HUMA 1123	029/77598	T Th 4:10pm - 5:25pm 404 Dodge Building	Bryan Parkhurst	3	25/24
HUMA 1123	030/21841	T Th 4:10pm - 5:25pm 405 Dodge Building	Mariusz Kozak	3	23/24
HUMA 1123	031/12964	T Th 4:10pm - 5:25pm 716 Hamilton Hall	Joshua Navon	3	24/24
HUMA 1123	032/73693	T Th 6:10pm - 7:25pm 404 Dodge Building	Michael Agnew	3	23/24
HUMA 1123	033/25358	T Th 6:10pm - 7:25pm 716 Hamilton Hall	Ralph Whyte	3	19/24
HUMA 1123	034/26751	M W 2:40pm - 3:55pm 404 Dodge Building	Martha Newland	3	24/24
HUMA 1123	035/27702	T Th 11:40am - 12:55pm 404 Dodge Building	Milan Mincek	3	24/24
HUMA 1123	036/28458	T Th 6:10pm - 7:25pm 622 Dodge Building	Stephen Lehman	3	21/24

**Spring 2015: HUMA W1123**

Course Number	Section/Call Number	Times/Location	Instructor	Points	Enrollment
HUMA 1123	001/12458	M W 8:40am - 9:55am 404 Dodge Building	Maja Cerar	3	21/24
HUMA 1123	002/19909	M W 8:40am - 9:55am 405 Dodge Building	Ashley Nail	3	25/24
HUMA 1123	003/11163	M W 8:40am - 9:55am 622 Dodge Building	Deborah Bradley-Kramer	3	25/24
HUMA 1123	004/72879	M W 8:40am - 9:55am 620 Dodge Building	David Adamcyk	3	21/24
HUMA 1123	005/27287	M W 8:40am - 9:55am 716 Hamilton Hall	Paula Harper	3	25/24
HUMA 1123	006/26194	M W 10:10am - 11:25am 404 Dodge Building	Joshua Navon	3	24/24
HUMA 1123	007/72481	M W 10:10am - 11:25am 405 Dodge Building	Ashley Nail	3	25/24
HUMA 1123	008/17270	M W 10:10am - 11:25am 622 Dodge Building	Walter Frisch	3	22/24
HUMA 1123	009/68112	M W 10:10am - 11:25am 716 Hamilton Hall	Ashkan Behzadi	3	22/24
HUMA 1123	010/26680	M W 1:10pm - 2:25pm 404 Dodge Building	Bryan Parkhurst	3	24/24
HUMA 1123	011/70688	M W 1:10pm - 2:25pm 716 Hamilton Hall	Tina Fruehauf	3	24/24
HUMA 1123	012/76861	M W 4:10pm - 5:25pm 404 Dodge Building	Edgardo Salinas	3	24/24
HUMA 1123	013/16756	M W 4:10pm - 5:25pm 405 Dodge Building	Yoshiaki Onishi	3	25/24
HUMA 1123	014/12183	M W 4:10pm - 5:25pm 716 Hamilton Hall	Joshua Mailman	3	21/24
HUMA 1123	015/70964	M W 6:10pm - 7:25pm 404 Dodge Building	Rodolfo Toledo	3	25/24
HUMA 1123	016/29328	M W 6:10pm - 7:25pm 405 Dodge Building	Ryan Pratt	3	22/24
HUMA 1123	017/76488	M W 6:10pm - 7:25pm 716 Hamilton Hall	Lucie Vagnerova	3	24/24
HUMA 1123	018/22951	T Th 8:40am - 9:55am 404 Dodge Building	Ralph Whyte	3	22/24



HUMA 1123	019/72983 405 Dodge Building	T Th 8:40am - 9:55am	Mark DeBellis	3	19/24
HUMA 1123	020/16705 622 Dodge Building	T Th 8:40am - 9:55am	Mahir Cetiz	3	23/24
HUMA 1123	021/70076 716 Hamilton Hall	T Th 8:40am - 9:55am	Ruth Longobardi	3	18/24
HUMA 1123	022/29382 404 Dodge Building	T Th 10:10am - 11:25am	Milan Mincek	3	24/24
HUMA 1123	023/12877 405 Dodge Building	T Th 10:10am - 11:25am	Martha Newland	3	24/24
HUMA 1123	024/60471 622 Dodge Building	T Th 10:10am - 11:25am	Julia Doe	3	24/24
HUMA 1123	025/60983 716 Hamilton Hall	T Th 10:10am - 11:25am	Mario Diaz de Leon	3	23/24
HUMA 1123	026/65133 405 Dodge Building	T Th 1:10pm - 2:25pm	Martha Newland	3	24/24
HUMA 1123	027/75857 622 Dodge Building	T Th 1:10pm - 2:25pm	Magdalena Baczewska	3	22/24
HUMA 1123	028/64729 716 Hamilton Hall	T Th 1:10pm - 2:25pm	Bradford Garton	3	25/24
HUMA 1123	029/29602 404 Dodge Building	T Th 4:10pm - 5:25pm	John McWhorter	3	24/24
HUMA 1123	030/70915 405 Dodge Building	T Th 4:10pm - 5:25pm	Michael Thaddeus	3	23/24
HUMA 1123	031/18944 716 Hamilton Hall	T Th 4:10pm - 5:25pm	Mary Robb	3	24/24
HUMA 1123	032/11774 404 Dodge Building	T Th 6:10pm - 7:25pm	Ramin Arjomand	3	19/24
HUMA 1123	033/63930 716 Hamilton Hall	T Th 6:10pm - 7:25pm	Cesar Colon- Montijo	3	24/24

## FRONTIERS OF SCIENCE

**Chair of Frontiers of Science** (fall): Prof. Nicholas Christie-Blick, 215 Seismology, Lamont-Doherty Earth Observatory; 845-365-8180

**Chair of Frontiers of Science** (spring): Lecturer Ivana Nikolic Hughes, 344 Havemeyer Hall; 212-854-2202

Frontiers of Science Website (<http://www.college.columbia.edu/core/classes/fos.php>)

*SCNC C1000 Frontiers of Science and SCNC C1100 Frontiers of Science: Discussion* 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 Frontiers of Science* 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 may petition the Committee on Science Instruction to be allowed to postpone taking *Frontiers of science* until their sophomore year, if they are enrolled in their following courses during their first-year in the College:

1. Literature Humanities
2. A mathematics course
3. A language course at the elementary II level or above
4. One of the following science major sequences:

CHEM Intensive Organic Chemistry I (Lecture)  
C3045 and Intensive Organic Chemistry II  
- CHEM (Lecture)  
W3046

PHYS Physics, I: Mechanics and Relativity  
C1601 and Physics, II: Thermodynamics,  
- PHYS Electricity, and Magnetism  
C1602

PHYS Accelerated Physics, I and II  
C2801 and Accelerated Physics, I and II  
- PHYS  
C2802

Students wishing to petition should do so in 208 Hamilton Hall.

## COURSES OF INSTRUCTION

**SCNC C1000 Frontiers of Science. 4 points.**

CC/GS: Partial Fulfillment of Science Requirement, Discussion Section Required

Corequisites: SCNC C1100

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.

### Fall 2014: SCNC C1000

Course Number	Section/ Call Number	Times/Location	Instructor	Points	Enrollment
SCNC 1000	001/72346	M 11:00am - 12:30pm 147 Horace Mann Bldg	Nicholas Christie-Blick	4	555/570

### Spring 2015: SCNC C1000

Course Number	Section/ Call Number	Times/Location	Instructor	Points	Enrollment
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SCNC 001/19692 M 11:00am - 12:30pm Ivana 4 566/570  
1000 147 Horace Mann Bldg Hughes

*SCNC C1000 Frontiers of Science* (4 points). Taught by members of the natural science departments and Columbia post-doctoral science fellows. Corequisite: *SCNC C1100 Frontiers of Science: 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, 310 Philosophy; 212-854-3886

**Undergraduate Writing Program Office:** 310 Philosophy; 212-854-3886; [uwp@columbia.edu](mailto:uwp@columbia.edu)

Undergraduate Writing Website (<http://www.college.columbia.edu/core/uwp>)

ENGL C1010 University Writing is designed to help undergraduates read and write essays in order to participate in the academic conversations that form Columbia's intellectual community. The course gives special attention to the practices of close reading, rhetorical analysis, research, collaboration, and substantive revision. By writing multiple drafts of essays typically ranging from three to ten pages, students will learn that writing is a process of forming and refining their ideas and their prose. Rather than approaching writing as an innate talent, the course teaches writing as a unique skill that can be practiced and developed.

## COURSES OF INSTRUCTION

ENGL C1010 University Writing (3 points) is taught in both general and theme-specific sections under the following course numbers:

ENGL C1010	University Writing
ENGL C1011	University Writing: Readings in American Studies
ENGL C1012	University Writing: Readings in Gender and Sexuality
ENGL C1013	University Writing: Readings in Sustainable Development
ENGL C1014	University Writing: Readings in Human Rights
ENGL C1015	University Writing: Readings in Data Sciences and Engineering
ENGL C1020	University Writing: for International Students

## WRITING CENTER

The Undergraduate Writing Program sponsors The Writing Center (<http://www.college.columbia.edu/core/uwp/writing-center>) in 310 Philosophy Hall, which 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's 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.

## FOREIGN LANGUAGE REQUIREMENT

The Foreign Language Requirement Website (<http://www.college.columbia.edu/core/classes/fl.php>)

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**  
*Language Resource Center*
- **Arabic**  
*Middle Eastern, South Asian, and African Studies*
- **Armenian**  
*Middle Eastern, South Asian, and African Studies*
- **Bengali**  
*Language Resource Center*
- **Catalan**  
*Latin American and Iberian Cultures*
- **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**  
*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**  
*Latin American and Iberian Cultures*
- **Pulaar**  
*Middle Eastern, South Asian, and African Studies*
- **Punjabi**  
*Middle Eastern, South Asian, and African Studies*
- **Romanian**  
*Language Resource Center*
- **Russian**  
*Slavic Languages*
- **Sanskrit**  
*Middle Eastern, South Asian, and African Studies*
- **Serbo-Croatian**  
*Slavic Languages*
- **Spanish**  
*Latin American and Iberian Cultures*
- **Swahili**  
*Middle Eastern, South Asian, and African Studies*
- **Swedish**  
*Germanic Languages*
- **Tagalog**  
*Language Resource Center*
- **Tamil**  
*Middle Eastern, South Asian, and African Studies*
- **Tibetan**  
*East Asian Languages and Cultures*
- **Turkish, Modern**  
*Middle Eastern, South Asian, and African Studies*
- **Ukrainian**  
*Slavic Languages*
- **Vietnamese**  
*East Asian Languages and Cultures*
- **Wolof**  
*Middle Eastern, South Asian, and African Studies*
- **Yiddish**  
*Germanic Languages*
- **Yoruba**  
*Middle Eastern, South Asian, and African Studies*

*Language Resource Center*

• **Zulu**

*Middle Eastern, South Asian, and African Studies*

## GLOBAL CORE REQUIREMENT

**Chair of the Global Core Requirement:** Professor Patricia Grieve, 302 Casa Hispanica; 212-854-4338

Global Core Requirement Website (<http://www.college.columbia.edu/core/classes/gc>)

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 approved list of Global Core courses for a letter grade.

Students who wish to request an exception to these policies must petition the Committee on the Global Core (<http://www.college.columbia.edu/academics/petitions>) prior to their final term at the College. Students must first speak with their advising dean in the Center for Student Advising in order to complete the petition process.

### SPRING 2015 APPROVED COURSES

#### **Anthropology**

- ANTH V1008 The Rise of Civilization  
ANTH V1130 Africa and the Anthropologist  
ANTH V3300 Pre-Columbian Histories of Native America  
ANTH V3465 Women and Gender Politics in the Muslim World

#### **Art History and Archaeology**

- AHIS W3208 The Arts of Africa  
AHUM V3342 Masterpieces of Indian Art and Architecture  
AHIS G4085 Andean Art and Architecture

#### **Center for the Core Curriculum**

- AFCV C1020 African Civilizations

- LACV C1020 Primary Texts of Latin American Civilization

#### **Center for the Study of Ethnicity and Race**

- CSER W1010 Introduction to Comparative Ethnic Studies  
CSER W3961 Wealth and Poverty in America (Effective beginning Fall 2013)

#### **Classics**

- CLCV W3111 Plato and Confucius: Comparative Ancient Philosophies (Effective beginning Spring 2015)

#### **Colloquia and Interdepartmental Seminars**

- INSM W3921 Nobility and Civility II  
INSM W3950 Friendship in Asian and Western Civilization

#### **Comparative Literature and Society**

- CPLS W3333 East/West Frametale Narratives  
CLGM V3920 The World Responds to the Greeks: Greece Faces East

#### **East Asian Languages and Cultures**

- ASCE V2002 Introduction to Major Topics in Asian Civilizations: East Asia  
ASCE V2359 Introduction to East Asian Civilizations: China  
ASCE V2361 Introduction to East Asian Civilization: Japan  
AHUM V3400 Colloquium on Major Texts: East Asia  
AHUM V3830 Colloquium On Modern East Asian Texts  
EAAS W4160 Cultures of Colonial Korea (Effective beginning Spring 2014; formerly EAAS G4160)  
EAAS W4227 East Asia and the Rise of a Global Middle Class (Effective for one term only: Spring 2015)

- EARL W4310 Life-Writing in Tibetan Buddhist Literature (Effective beginning Spring 2015)

- HSEA W4870 Japan Before 1600 (Effective beginning Spring 2015)

#### **English and Comparative Literature**

- ENGL W4650 Novels of Immigration, Relocation, Diaspora (Effective beginning Spring 2015; formerly ENGL W3510)

#### **History**

- HIST W1004 Ancient History of Egypt (Effective beginning Spring 2015)  
HIST W3661 Latin American Civilization II  
HIST W3811 South Asia II: Empire and Its Aftermath  
HSEA W3898 The Mongols In History

HIST W4678 Indigenous Worlds in Early Latin America  
(Effective beginning Spring 2015)

HIST W4779 Africa and France

### Latin American and Iberian Cultures

SPAN W3349 Hispanic Cultures I: Islamic Spain through  
the Colonial Period

SPAN W3350 Hispanic Cultures II: Enlightenment to the  
Present

PORT W3350 Lusophone Africa and Afro Brazilian  
Culture

### Middle Eastern, South Asian, and African Studies

ASCM V2008 Contemporary Islamic Civilization

MDES Introduction to Indian Philosophy  
W2041 (Effective beginning Spring 2015)

MDES Gandhi and His Interlocutors (Effective  
W2650 beginning Spring 2015)

MDES East Africa and the Swahili Coast in an  
W3130 Interconnected World (Effective beginning  
Spring 2015)

AHUM Major Texts: Middle East/India  
V3399

CLME Arabic Prison Writing (Effective beginning  
W3928 Fall 2014)

### Music

AHMM Introduction To the Musics of East Asia  
V3320 and Southeast Asia

### Religion

RELI V2205 Hinduism

RELI V2405 Chinese Religious Traditions

RELI V3411 Tantra in South Asia, East Asia, and the  
West (Effective beginning Spring 2015)

### Slavic Languages

CLRS W4022 Russia and Asia: Orientalism, Eurasianism,  
Internationalism (Effective beginning  
Spring 2015)

## FALL 2014 APPROVED COURSES

### African American Studies

AFAS C1001 Introduction to African-American Studies

### Anthropology

ANTH V3821 Native America (formerly V3090)

ANTH V3933 Arabia Imagined

### Art History and Archaeology

AHIS V3201 Arts of China

AHUM Art In China, Japan, and Korea  
V3340

AHUM Masterpieces of Indian Art and  
V3342 Architecture

AHIS W3898 Yoruba and the Diaspora (Effective  
beginning Fall 2014)

### Center for the Core Curriculum

AFCV C1020 African Civilizations

LACV C1020 Primary Texts of Latin American  
Civilization

### Center for the Study of Ethnicity and Race

CSER W3922 Asian American Cinema

CSER W3926 Latin Music and Identity

CSER W3928 Colonization/Decolonization

### Colloquia and Interdepartmental Seminars

INSM W3920 Nobility and Civility

### Comparative Literature and Society

CPLS W4100 Andalusian Symbiosis: Islam and the West  
(Effective beginning Fall 2014)

### East Asian Languages and Cultures

ASCE V2002 Introduction to Major Topics in Asian  
Civilizations: East Asia

ASCE V2359 Introduction to East Asian Civilizations:  
China

ASCE V2361 Introduction to East Asian Civilization:  
Japan

ASCE V2363 Introduction to East Asian Civilizations:  
Korea

ASCE V2365 Introduction to East Asian Civilizations:  
Tibet

EAAS V3350 Japanese Fiction and Film (Effective  
beginning Fall 2014)

AHUM Colloquium on Major Texts: East Asia  
V3400

### Economics

ECON Economic Organization and Development  
W4325 of Japan

### History

HIST W3618 The Modern Caribbean

HIST W3657 Medieval Jewish Cultures

HIST W3660 Latin American Civilization I

HIST W3719 History of the Modern Middle East

HIST W3772 West African History

HSME History of South Asia I: al-Hind to  
W3810 Hindustan

HIST W3902 History of the World to 1450 CE  
(Effective beginning Fall 2014)

HIST W4601 Jews in the Later Roman Empire, 300-600  
CE (Effective beginning Fall 2014)

### Latin American and Iberian Cultures

SPAN W3349 Hispanic Cultures I: Islamic Spain through  
the Colonial Period

SPAN W3350 Hispanic Cultures II: Enlightenment to the  
Present

### Middle Eastern, South Asian, and African Studies

ASCM V2003 Introduction to Islamic Civilization

MDES W2030 Major Debates in the Study of Africa (Effective beginning Spring 2014; formerly ANTH V2010)

MDES W3000 Theory and Culture

AHUM V3399 Major Texts: Middle East/India

MDES W3445 Societies & Cultures Across the Indian Ocean

CLME W3928 Arabic Prison Writing (Effective beginning Fall 2014)

#### Music

MUSI V2430 Listening and Sound in Cross-Cultural Perspective (Effective beginning Fall 2014; formerly MUSI W4430)

AHMM V3321 Introduction To the Musics of India and West Asia

#### Religion

RELI V2008 Buddhism: East Asian

RELI V2305 Islam

#### Slavic Languages

SLCL W3001 Slavic Cultures

#### Sociology

SOCI W3324 Global Urbanism

#### Theatre

THTR V3000 Theatre Traditions in a Global Context (Effective beginning Fall 2014)

## ALL APPROVED COURSES

*Not all courses are taught each academic year. Below is the full list of all courses approved for the Global Core Requirement, regardless of semester offered. Last updated on December 11, 2014.*

#### African-American Studies

AFAS C1001 Introduction to African-American Studies

#### Anthropology

ANTH V1008 The Rise of Civilization

ANTH V1130 Africa and the Anthropologist

ANTH V2013 Africa in the 21st Century: Aesthetics, Culture, Politics

ANTH V2014 Archaeology and Africa: Changing Perceptions of the African Past

ANTH V2020 Chinese Strategies: Cultures in Practice

ANTH V2027 Changing East Asia Foodways

ANTH V2035 Introduction to the Anthropology of South Asia

ANTH V2100 Muslim Societies

ANTH V3300 Pre-Columbian Histories of Native America

ANTH V3465 Women and Gender Politics in the Muslim World

ANTH V3525 Introduction to South Asian History and Culture

ANTH V3821 Native America (formerly V3090)

ANTH V3892 Contemporary Central Asia (formerly ANTH V2029)

ANTH V3933 Arabia Imagined

ANTH V3947 Text, Magic, Performance

ANHS W4001 The Ancient Empires

ANTH G4065 Archaeology of Idols

#### Art History and Archaeology

AHIS V3201 Arts of China

AHIS W3208 The Arts of Africa

AHUM V3340 Art In China, Japan, and Korea

AHUM V3342 Masterpieces of Indian Art and Architecture

AHIS W3898 Yoruba and the Diaspora (Effective beginning Fall 2014)

AHIS G4085 Andean Art and Architecture

#### Center for the Core Curriculum

AFCV C1020 African Civilizations

LACV C1020 Primary Texts of Latin American Civilization

#### Center for the Study of Ethnicity and Race

CSER W1010 Introduction to Comparative Ethnic Studies

CSER W1600 Latino/a History

CSER W1601 Introduction to Latino/a Studies

CSER W3510 Immigration, Relocation, and Diaspora

CSER W3922 Asian American Cinema

CSER W3926 Latin Music and Identity

CSER W3928 Colonization/Decolonization

CSER W3961 Wealth and Poverty in America (Effective beginning Fall 2013)

#### Classics

CLCV W3111 Plato and Confucius: Comparative Ancient Philosophies (Effective beginning Spring 2015)

#### Colloquia and Interdepartmental Seminars

INSM W3920 Nobility and Civility

INSM W3921 Nobility and Civility II

INSM C3940 Science Across Cultures

INSM W3950 Friendship in Asian and Western Civilization

#### Comparative Literature and Society

CPLS W3333 East/West Frametale Narratives

CPLS W3454 Blood/Lust: Staging the Early Modern Mediterranean



CLGM V3920	The World Responds to the Greeks: Greece Faces East
CPLS W3945	Transnational Memory Politics and the Culture of Human Rights (Effective beginning Spring 2014)
CPLS W3955	The West in Global Thought
CPLS W3956	Postcolonial Narrative and the Limits of the Human
CPLS W4100	Andalusian Symbiosis: Islam and the West (Effective beginning Fall 2014)

### East Asian Languages and Cultures

ASCE V2002	Introduction to Major Topics in Asian Civilizations: East Asia
ASCE V2359	Introduction to East Asian Civilizations: China
ASCE V2361	Introduction to East Asian Civilization: Japan
ASCE V2363	Introduction to East Asian Civilizations: Korea
ASCE V2365	Introduction to East Asian Civilizations: Tibet
EAAS V3350	Japanese Fiction and Film (Effective beginning Fall 2014)
AHUM V3400	Colloquium on Major Texts: East Asia
AHUM V3830	Colloquium On Modern East Asian Texts
EAAS V3927	China in the Modern World
EAAS W4160	Cultures of Colonial Korea (Effective beginning Spring 2014; formerly EAAS G4160)
EAAS W4227	East Asia and the Rise of a Global Middle Class (Effective for one term only: Spring 2015)
EARL W4310	Life-Writing in Tibetan Buddhist Literature (Effective beginning Spring 2015)
HSEA W4866	Competing Nationalisms in East Asia: Representing Chinese and Tibetan Relations in History (Effective beginning Fall 2015)
HSEA W4870	Japan Before 1600 (Effective beginning Spring 2015)

### Economics

ECON W4325	Economic Organization and Development of Japan
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### English and Comparative Literature

CLEN W4200	Caribbean Diaspora Literature
ENGL W4650	Novels of Immigration, Relocation, Diaspora (Effective Spring 2015; formerly ENGL W3510)

### History

HIST W1004	Ancient History of Egypt (Effective beginning Spring 2015)
HIST W3618	The Modern Caribbean
HIST W3657	Medieval Jewish Cultures
HIST W3660	Latin American Civilization I
HIST W3661	Latin American Civilization II
HIST W3665	Economic History of Latin America
HIST W3701	Ottoman Empire (Effective beginning Fall 2013)
HIST W3719	History of the Modern Middle East
HIST W3764	History of East Africa: Early Time to the Present (Effective beginning Spring 2014)
HIST W3772	West African History
HIST W3800	Gandhi's India
HIST W3803	The Worlds of Mughal India (Effective beginning Spring 2014)
HSME W3810	History of South Asia I: al-Hind to Hindustan
HIST W3811	South Asia II: Empire and Its Aftermath
HSEA W3898	The Mongols In History
HIST W3902	History of the World to 1450 CE (Effective beginning Fall 2014)
HIST W3903	History of the World from 1450 CE to the Present (Effective beginning Fall 2013)
HIST W3943	Cultures of Empire
HIST W4103	Empires and Cultures of the Early Modern Atlantic World (Effective only for Spring 2014)
HIST W4404	Native American History
HIST W4601	Jews in the Later Roman Empire, 300-600 CE (Effective beginning Fall 2014)
HIST W4678	Indigenous Worlds in Early Latin America (Effective beginning Spring 2015)
HIST W4779	Africa and France

### Latin American and Iberian Cultures

SPAN W3349	Hispanic Cultures I: Islamic Spain through the Colonial Period
SPAN W3350	Hispanic Cultures II: Enlightenment to the Present
PORT W3350	Lusophone Africa and Afro Brazilian Culture
SPAN W3490	Latin American Humanities I: From Pre-Columbian Civilizations to the Creation of New Nations
SPAN W3491	Latin American Humanities II: From Modernity to the Present [In English]

### Middle Eastern, South Asian, and African Studies

ASCM V2001	Introduction to Major Topics in the Civilizations of the Middle East and India
ASCM V2003	Introduction to Islamic Civilization
ASCM V2008	Contemporary Islamic Civilization

MDES W2030 Major Debates in the Study of Africa (Effective beginning Spring 2014; formerly ANTH V2010)

MDES W2041 Introduction to Indian Philosophy (Effective beginning Spring 2015)

ASCM V2357 Introduction to the Civilization of India

MDES W2650 Gandhi and His Interlocutors (Effective beginning Spring 2015)

MDES W3000 Theory and Culture

CLME W3032 Colonialism: Film, Fiction, History & Theory

MDES W3130 East Africa and the Swahili Coast in an Interconnected World (Effective beginning Spring 2015)

AHUM V3399 Major Texts: Middle East/India

MDES W3445 Societies & Cultures Across the Indian Ocean (Effective beginning Fall 2013)

CLME W3928 Arabic Prison Writing (Effective beginning Fall 2014)

CLME W4031 Cinema and Society In Asia and Africa

MDES G4052 Locating Africa in the Early 20th Century World

CLME G4261 Popular Islam: Asia and Africa

MDES G4326 The Armenian Genocide and the Holocaust: Memory and Representation

### Music

MUSI V2020 Salsa, Soca, and Reggae: Popular Musics of the Caribbean

MUSI V2430 Listening and Sound in Cross-Cultural Perspective (Effective beginning Fall 2014; formerly MUSI W4430)

AHMM V3320 Introduction To the Musics of East Asia and Southeast Asia

AHMM V3321 Introduction To the Musics of India and West Asia

### Religion

RELI V2008 Buddhism: East Asian

RELI V2205 Hinduism

RELI V2305 Islam

RELI V2405 Chinese Religious Traditions

RELI V2645 Religion in Black America: An Introduction

RELI V3411 Tantra in South Asia, East Asia, and the West (Effective beginning Spring 2015)

### Slavic Languages

SLCL W3001 Slavic Cultures

CLRS W4022 Russia and Asia: Orientalism, Eurasianism, Internationalism (Effective beginning Spring 2015)

CLRS W4190 Race, Ethnicity, and Narrative, in the Russian/Soviet Empire

### Sociology

SOCI W3324 Global Urbanism

### Theatre

THTR V3000 Theatre Traditions in a Global Context (Effective beginning Fall 2014)

## SCIENCE REQUIREMENT

**General Information:** Office of Academic Affairs, 208 Hamilton; 212-854-2441

Science Requirement Website (<http://www.college.columbia.edu/core/classes/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 bearing at least 3 points each (for a total of 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 (<http://www.college.columbia.edu/academics/petitions>) (202 Hamilton) **prior** to their final term at the College.

## GUIDELINES FOR 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 lists 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

ASTR C1235 The Universal Timekeeper: an Introduction To Scientific Habits of Mind

ASTR W1403 Earth, Moon and Planets (Lecture) (previously offered as ASTR C1403)

ASTR W1404 Stars, Galaxies and Cosmology (Lecture) (previously offered as ASTR C1404)

ASTR C1420 Galaxies and Cosmology.

ASTR W1453 Another Earth (previously offered as ASTR C1453)

ASTR C1610 Theories of the Universe: From Babylon to the Big Bang

ASTR BC1753 Life in the Universe

ASTR BC1754 Stars, Galaxies and Cosmology

ASTR C1836 Stars and atoms

### Recommended Sequences:

ASTR C1234 The Universal Timekeeper: an  
- ASTR Introduction To Scientific Habits of Mind  
C1235 and The Universal Timekeeper: an  
Introduction To Scientific Habits of Mind

ASTR W1403 Earth, Moon and Planets (Lecture)  
- ASTR and Stars, Galaxies and Cosmology  
W1404 (Lecture)

ASTR W1403 Earth, Moon and Planets (Lecture)  
- ASTR and Galaxies and Cosmology.  
C1420

ASTR W1403 Earth, Moon and Planets (Lecture)  
- ASTR and Stars, Galaxies and Cosmology  
BC1754

ASTR W1403 Earth, Moon and Planets (Lecture)  
- ASTR and Stars and atoms  
C1836

ASTR BC1753 Life in the Universe  
and Stars, Galaxies and Cosmology  
- ASTR (Lecture)  
W1404

ASTR BC1753 Life in the Universe  
and Stars, Galaxies and Cosmology  
- ASTR  
BC1754

### Biology [BIOL]

BIOL C1002 Theory and Practice of Science: Biology

BIOL W1015 Molecular Biology and Evolution for  
Nonscientists (previously offered as BIOL  
C1015)

BIOL W1130 Genes and Development

### Computer Science [COMS]

COMS Introduction to Information Science  
W1001

CSEN W1002 Computing in Context

### Earth and Environmental Engineering [EAEE]

EAEE E2100 A better planet by design

### Earth and Environmental Sciences [EESC]

EESC W1001 Dinosaurs and the History of Life: Lectures  
and Lab (previously offered as EESC  
V1001)

EESC V1003 Climate and Society: Case Studies

EESC V1011 Earth: Origin, Evolution, Processes, Future  
EESC V1030

EESC V1053 Planet Earth

EESC W1201 Environmental Risks and Disasters  
(previously offered as EESC V1201)

EESC W1401 Dinosaurs and the History of Life: Lectures  
(previously offered as EESC V1401)

EESC V1411 Earth: Origin, Evolution, Processes,  
Future: Lectures

EESC V1600

### Ecology, Evolution, and Environmental Biology [EEEB]

EEEB W1001 Biodiversity

EEEB V1010 Human Origins & Evolution

EEEB W1011 Behavioral Biology of the Living Primates  
(previously offered as EEEB V1011)

Recommended Sequences:

EEEB W1001 Biodiversity  
- EEEB and Conservation Biology (see Additional  
W3087 Courses Approved for the Sequence  
Requirement)

EEEB V1010 Human Origins & Evolution  
- EEEB and Behavioral Biology of the Living  
W1011 Primates (previously offered as EEEB  
V1011)

### Electrical Engineering [ELEN]

ELEN E1101 The digital information age

### Mathematics [MATH]

PHIL V3411 Symbolic Logic

PHIL G4424 Modal Logic

### Physics [PHYS]

PHYS C1001 Physics for Poets

PHYS C1002 Physics for Poets

PHYS W3018 Weapons of Mass Destruction

Recommended Sequences:

PHYS C1001 Physics for Poets  
- PHYS and Physics for Poets  
C1002

### Psychology [PSYC]

PSYC W1001 The Science of Psychology

PSYC W1010 Mind, Brain and Behavior

Recommended Sequences:

PSYC W1001 The Science of Psychology  
- PSYC and Mind, Brain and Behavior  
W1010

PSYC W1001 The Science of Psychology (and any PSYC  
course numbered 22xx or 24xx. 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 General Chemistry I (Lecture)  
C1403

CHEM General Chemistry II (Lecture) (previously  
W1404 offered as CHEM C1404)

CHEM General Chemistry Laboratory (previously  
W1500 offered as CHEM C1500)

CHEM Second Semester General Chemistry  
C1604 (Intensive)

CHEM Intensive General Chemistry Laboratory  
W2507

Any course numbered 3000 or higher

### Computer Science [COMS]

COMS Introduction to Computer Science and  
W1004 Programming in Java

COMS Introduction to Computer Science and  
W1005 Programming in MATLAB

COMS Honors Introduction to Computer Science  
W1007

Any 3-point course numbered 3000 or higher

### Earth and Environmental Sciences [EESC]

EESC W2100 Earth's Environmental Systems: The  
Climate System (previously offered as  
EESC V2100)

EESC W2200 Earth's Environmental Systems: The Solid  
Earth System (previously offered as EESC  
V2200)

EESC W2300 Earth's Environmental Systems: The  
Life System (previously offered as EESC  
V2300)

EESC W2330 Science for Sustainable Development

Any course numbered 3000 or higher

### Ecology, Evolution, and Environmental Biology [EEEB]

EEEB W2001 Environmental Biology I: Elements to  
Organisms

EEEB W2002 Environmental Biology II: Organisms to  
the Biosphere

EEEB W3087 Conservation Biology

Any course numbered 3000 or higher except W4321 and  
W4700 .

### Mathematics [MATH]

Any 3-point MATH course numbered 1100 or higher

CSPH G4801 Mathematical Logic I

CSPH G4802 Math Logic II: Incompleteness

### Physics [PHYS]

PHYS F1201/ General Physics

V1201/

W1201

PHYS F1202/ General Physics  
V1202

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]

With prior departmental approval, any 3- or 4-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.

### Earth Institute Center for Environmental Sustainability [EICES]

Summer Ecosystem Experiences for Undergraduates  
(SEE-U). Locations change yearly and there is rolling  
admissions. \*

\* Please check with EICES for details: [http://  
eices.columbia.edu/education-training/see-u/](http://eices.columbia.edu/education-training/see-u/)

# PHYSICAL EDUCATION REQUIREMENT

**General Information:** Physical Education Department,  
Dodge Physical Fitness Center; 212-854-3439

Physical Education Website ([http://  
www.dodgefitnesscenter.com](http://www.dodgefitnesscenter.com))

Successful completion of two Physical Education Activities is  
required 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 pass the course. **Students who are absent more  
than the permissible number of times are given a mark  
of W (Withdrawal), unless they file a drop form with the  
Department of Physical Education by the official deadline  
to drop a course.**

One point of the Physical Education requirement may be  
a Barnard Physical Education course or a Barnard Dance  
technique course. No more than 4 points of physical  
education courses may be counted toward the degree.

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 still wish  
to receive 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.

For more information, visit the Physical Education  
Department website: <http://www.dodgefitnesscenter.com>

## 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  
Center for Student Advising 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 [http://  
www.gocolumbiaions.com](http://www.gocolumbiaions.com) .



# STUDY ABROAD

**Office of Global Programs** (<http://www.ogp.columbia.edu>) :  
606 Kent Hall; 212-854-2559

Studying in a foreign country for a semester, a full year, or sometimes a summer, 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 are all members. 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 year or during any summer term.

Students on Columbia-sponsored programs at Reid Hall in Paris, the Berlin Consortium for German Studies, the Kyoto Center for Japanese Studies, the Columbia in Beijing Program at Tsinghua University, the Tropical Biology and Sustainability Program in Kenya, and the Consortium for Advanced Studies in Barcelona receive direct Columbia credit for their courses and the grades earned in their studies are reflected on their transcripts and cumulative GPA. 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. Grades earned during participation in outside approved programs are not reflected on the transcript or the cumulative GPA. College transfer students should note that they are permitted 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 the 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 typically taught 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 on approved programs by the Office of Global Programs, 606 Kent, by October 15 for the spring semester and by March 15 for the fall semester/academic year. Students must register with this office before November 15 for the spring semester and April 15 for the fall semester/academic year.

While abroad, students remain enrolled at the College; tuition is paid to Columbia. Columbia, in turn, pays the academic costs of the overseas program. Students are financially responsible for room, board, and any other miscellaneous costs. Students receiving financial aid at Columbia remain eligible for aid when they study abroad with Columbia's approval. Students may direct financial aid and study abroad inquiries to the Office of Financial Aid and Educational Financing, 618 Lerner.

## SPONSORED PROGRAMS

Columbia College students attending the programs listed below 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 (<http://www.ogp.columbia.edu>) by visiting 606 Kent Hall, calling 212-854-2559, or e-mailing [ogp@columbia.edu](mailto:ogp@columbia.edu).

## 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 the fall 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, the University of Pennsylvania, in association with Vassar College, and the University of Notre Dame.

For program information, students may consult <http://www.bcgscolumbia.edu> or e-mail [berlin@columbia.edu](mailto:berlin@columbia.edu). Students are also advised to consult with the Director of Undergraduate Studies (<http://www.college.columbia.edu/academics/dus>) in the Department of Germanic Languages (<http://www.columbia.edu/cu/german>).

## THE 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 incorporating into the curriculum field trips, guest speakers, and research projects based on local field work.

For program information, students may consult <http://www.kcjs.columbia.edu> and e-mail [kyoto@columbia.edu](mailto:kyoto@columbia.edu). Students are also advised to consult with the Director of Undergraduate Studies (<http://www.college.columbia.edu/academics/dus>) in the East Asian Languages and Cultures Department (<http://ealac.columbia.edu>).

## 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 Global Programs (<http://www.ogp.columbia.edu>), where a preliminary selection of candidates is made. Designated candidates for admissions then apply to one of the participating colleges of Oxford or Cambridge. Criteria for admission include a very strong

academic record at Columbia, as well as commitment to a chosen field of study. Application through the Columbia Oxford/Cambridge Scholars Program is the only way the College authorizes study at either university.

## REID HALL IN PARIS, FRANCE

Established in 1966, the Columbia-Penn Program in Paris at Reid Hall offers semester, academic-year, and summer study-abroad options that challenge 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 in the French university system at partner institutions: Institut d'Etudes Politiques (Sciences Po), University of Paris I (Panthéon Sorbonne), University of Paris IV (Sorbonne), University of Paris VII (Denis Diderot), and the École 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.

For additional information, e-mail [reidhall@columbia.edu](mailto:reidhall@columbia.edu).

## 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 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.

For program information, students may consult <http://www.ogp.columbia.edu> and e-mail [beijing@columbia.edu](mailto:beijing@columbia.edu).

## TROPICAL BIOLOGY AND SUSTAINABILITY IN KENYA PROGRAM

In partnership with Princeton University, Columbia has developed a field semester abroad program in Kenya on Tropical Biology and Sustainability. Operating during the spring semester, this global immersion experience gives students the opportunity to study ecology, evolutionary

biology, conservation biology, environmental engineering, and sustainable development in the environmental hub of East Africa. Based at Princeton's Mpala Research Centre in central Kenya, and with support from Columbia's Global Center Africa in Nairobi, students also travel across Kenya to places such as the forested slopes of Mt. Kenya, the wildlife-rich savannas of Laikipia, and the coffee and tea plantations of western Kenya. Students take four three-week course modules taught by Princeton and Columbia faculty who work in Kenya and other parts of East Africa.

Applicants must have completed Environmental Biology I and II or the equivalent to be eligible to apply.

## THE 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 four distinguished partner universities: the Universitat de Barcelona (UB), the Universitat Autònoma de Barcelona (UAB), the Universitat Pompeu Fabra (UPF), and the Universitat Politècnica de Catalunya (UPC). The combined course offerings of the four 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 provides 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 five semesters of college-level Spanish or Catalan.

## SUMMER STUDY ABROAD

Summer study abroad provides a meaningful complement to the College curriculum and can help students prepare for semester- or year-long overseas 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 Archaeological Fieldwork at Hadrian's Villa Program in Rome**

**The Chinese Language Program in Beijing**

**The Business Chinese and Internship Program in Shanghai**

**The Columbia-Boğaziçi Byzantine Studies and Urban Mapping in Istanbul**

**The Italian Cultural Studies Program in Venice**

**The Kyoto Consortium for Japanese Studies Program in Advanced and Classical Japanese**

**The Middle Eastern and North African Studies Program in Amman and Paris**

**The Summer Portuguese Program in Rio de Janeiro**

**The Summer Program in Tokyo: Japanese Film Studies at Waseda University**

**The programs at Reid Hall (Summer French Studies and Paris Then and Now: Creative Writing in Paris)**

Students seeking to study abroad during the summer must be approved by the Office of Global Programs (<http://www.ogp.columbia.edu>), 606 Kent. Transfer credit for summer classes taken abroad on outside programs is awarded only for foreign-language courses under these conditions:

- 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.
- 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.

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 (<http://www.ogp.columbia.edu>). 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 Education (<http://www.careereducation.columbia.edu/students/undergrad>) (East Campus Building, Lower Level).

## INTERNATIONAL EXCHANGE PROGRAMS

In order to provide the richest and most immersive experience possible to its students, Columbia has established a network of exchange agreements with international institutions. With an exchange agreement, Columbia students may study at a partner institution; 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 the following institutions:

- Bocconi University
- Boğaziçi University
- Hong Kong University of Science and Technology
- Universität der Künste
- University College London
- University of Hong Kong
- Waseda University

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 program information, students may consult <http://www.ogp.columbia.edu> , e-mail [ogp@columbia.edu](mailto:ogp@columbia.edu) , or call 212-854-2559.

# SPECIAL PROGRAMS

## HEALTH PROFESSIONS

Office of Preprofessional Advising (<http://www.studentaffairs.columbia.edu/preprofessional>) : Center for Student Advising, 403 Lerner Hall; 212-854-6378.

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.

## MAJORS AND CONCENTRATIONS

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

It is very important to note that medical schools in the United States and Canada each individually determine their own entrance requirements, including prerequisite coursework or competencies. Each medical school also sets its own rules regarding acceptable courses or course equivalents. It is therefore essential that students confirm the premedical requirements for those schools to which they intend to apply.

In addition to medical school course requirements, all medical schools currently require applicants to sit for the MCAT exam (<https://www.aamc.org/students/applying/mcat>). A new format of this exam will be introduced in the spring of 2015, for which the recommended minimum preparation is:

- 1 year of General Chemistry and General Chemistry Lab
- 1 year of Introductory Biology and Biology Lab
- 1 year of Organic Chemistry and Organic Chemistry Lab
- 1 year of General Physics and Physics Lab
- 1 semester of Introductory Psychology

At Columbia, the following courses correspond to the above requirements:

### General Chemistry

CHEM C1403 General Chemistry I (Lecture) and  
- CHEM C1404

CHEM W1500 General Chemistry Laboratory

Or, for students who place into the accelerated track

CHEM C1604 Second Semester General Chemistry (Intensive)

CHEM W2507 Intensive General Chemistry Laboratory

### Biology

BIOL C2005 Introductory Biology I: Biochemistry,  
- BIOL C2006 Genetics & Molecular Biology  
and Introductory Biology II: Cell Biology,  
Development & Physiology

BIOL W2501 Contemporary Biology Laboratory (Or  
other Biology laboratory approved by pre-  
professional adviser)

### Organic Chemistry

Select one of the following options:

#### Option A

CHEM C3443 Organic Chemistry I (Lecture)  
and

- CHEM C3444

CHEM W3543 Organic Chemistry Laboratory <sup>1</sup>

#### Option B <sup>2</sup>

CHEM C3045 Intensive Organic Chemistry I (Lecture)  
and

- CHEM C3046

CHEM W3545 Intensive Organic Chemistry Laboratory

CHEM W2507 Intensive General Chemistry Laboratory

### Physics

Select one of the following options

#### Option A

PHYS V1201 General Physics  
and General Physics

- PHYS V1202

PHYS W1291 General Physics Laboratory  
and General Physics Laboratory

- PHYS W1292

#### Option B

PHYS C1401 Introduction To Mechanics and  
Thermodynamics

- PHYS C1402

and Introduction To Electricity,  
Magnetism, and Optics

Or

PHYS C1601 Physics, I: Mechanics and Relativity  
and Physics, II: Thermodynamics,

- PHYS C1602

Electricity, and Magnetism



And one of the following laboratories: PHYS C1493, PHYS C1494, PHYS C2699, or PHYS W3081

Option C<sup>3</sup>

PHYS C2801 Accelerated Physics, I and II  
- PHYS and Accelerated Physics, I and II  
C2802

PHYS W3081 Intermediate Laboratory Work

### Psychology

PSYC W1001 The Science of Psychology

- <sup>1</sup> The second term of lab, CHEM W3546 Advanced Organic Chemistry Laboratory, is optional.
- <sup>2</sup> This sequence is available only to students who have AP credit in Chemistry, and who achieve a high enough score on the Chemistry Department placement test.
- <sup>3</sup> An option for students with exceptionally strong backgrounds in both Physics and Mathematics, AP in these subjects or the equivalent, and who achieve a high enough score on the placement exam held during New Student Orientation.

While these courses are recommended for MCAT preparation, students should note the following additional information:

- English - most medical schools require a year of English, emphasizing skill acquisition in writing. Columbia College students fulfill this requirement with University Writing (ENGL C1010) and Masterpieces of Western Literature and Philosophy (Literature Humanities) (HUMA C1001-1002).
- Mathematics - although not required by most medical schools, calculus is required for Columbia chemistry sequences and therefore all premedical students should have successfully completed the equivalent of one semester of Calculus. Medical schools that do have a mathematics requirement typically expect one semester of calculus and one semester of statistics. Any Columbia calculus and statistics classes will meet the requirement and it is sometimes possible to use AP credit toward this requirement.
- Biochemistry - an increasing number of medical schools require one semester of biochemistry. Columbia's introductory biology sequence covers many foundational concepts of biochemistry, it is not guaranteed that medical schools will accept this in fulfillment of a biochemistry requirement.
- Advanced Biology - a small number of schools require more than one year of introductory biology and many of these recommend specific advanced level classes.
- Social and Behavioral Science - a small number of schools have begun to add social and behavioral science courses into their requirements, including, but not limited to, psychology and sociology.

Students should note that medical schools' stated prerequisites are subject to change from year to year and it is the

responsibility of students to confirm the prerequisite requirements for the medical schools to which they intend to apply. Most medical schools list their requirements in greater detail on their individual websites and more information can be found here (<https://services.aamc.org/30/msar/home>).

## 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 is accepted by some schools, but not all; students are responsible for monitoring the requirements of each school to which they intend to apply.

Generally, 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 profession 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 profession school to apply and thus delay application to these schools for one or more years.

Students planning to apply 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 in the Center for Student Advising 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. Clinical exploration is viewed by many medical schools as a good test of students' professional motivation and students are strongly encouraged to investigate some of the options available for meeting this expectation before applying to medical school.

## 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; Calculus IV is required for some programs

MATH E1210

#### Chemistry

CHEM C1403 General Chemistry I (Lecture) and

- CHEM C1404

Or

CHEM C1604 Second Semester General Chemistry (Intensive)

Or

CHEM C3045 Intensive Organic Chemistry I (Lecture) and

- CHEM C3046

Laboratory requirement depends on specific program

#### Physics

One of the following sequences:

PHYS C1401 Introduction To Mechanics and  
- PHYS C1402 Thermodynamics  
and Introduction To Electricity,  
Magnetism, and Optics

PHYS C1601 Physics, I: Mechanics and Relativity  
- PHYS C1602 and Physics, II: Thermodynamics,  
Electricity, and Magnetism

PHYS C2801 Accelerated Physics, I and II  
- PHYS C2802 and Accelerated Physics, I and II

Some programs require a third semester of Physics

Laboratory requirement depends on program

#### Computer Science

Select one of the following, depending on program

ENGI E1006 Introduction to Computing for Engineers  
and Applied Scientists

COMS W1004 Introduction to Computer Science and  
Programming in Java

COMS W1005 Introduction to Computer Science and  
Programming in MATLAB

#### Economics

ECON W1105 Principles of Economics

Students must also complete the requirements for a Columbia College concentration or major and any additional pre-curricular requirements for the specific engineering major (see specific requirements on the admissions website). 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 sessions 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 fifth year that is approved by the appropriate director of Undergraduate Studies. For more information, students may contact their advising dean.

### THE INTERNATIONAL AFFAIRS FIVE-YEAR PROGRAM

The International Affairs Five-Year Program offers students the opportunity to earn both B.A. and M.I.A. degrees in five years. Students apply to the program during their junior year through the Admissions Office (<https://sipa.columbia.edu/admissions/program-admissions/miampa-admissions>) in the School of International and Public Affairs (SIPA) (<https://sipa.columbia.edu>). Once admitted to the joint program, students complete their senior year at Columbia College, but the bulk of 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, students 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/concentration requirements, with the exception of 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 SIPA requirements may be taken in the junior year. Summer courses between the junior and senior year may be considered. Students 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 may 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 BA/MM 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 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.

## ACCELERATED INTERDISCIPLINARY LEGAL EDUCATION PROGRAM

The Accelerated Interdisciplinary Legal Education (AILE) Program annually provides up to one or two College students with outstanding records the opportunity to earn both B.A. and J.D. degrees 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 (<http://www.studentaffairs.columbia.edu/preprofessional>) in the Center for Student 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) (<http://www.studentaffairs.columbia.edu/preprofessional/law/applying/lsat.php>) no later than the February administration of the year of intended enrollment. After formal admission to the Law School, the students are withdrawn from the College. In the student's second and third years at the Law School, 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 more information, students may contact the Office of Pre-Professional Advising, 403 Lerner.

## PUBLIC POLICY AND ADMINISTRATION FIVE-YEAR PROGRAM

The Graduate Program in Public Policy and Administration provides students with the opportunity to earn both B.A. and M.P.A. degrees in five years. Students apply to the program during their junior year through the Admissions Office (<https://sipa.columbia.edu/admissions/program-admissions/miampa-admissions>) in the School of International and Public Affairs (SIPA) (<https://sipa.columbia.edu>). Once admitted to the joint program, students complete their senior year at Columbia College, but the bulk of 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, students 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/concentration requirements, with the exception of 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 SIPA requirements may be taken in the junior year. Summer courses between the junior and senior year may be considered. Students 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 may contact their advising dean.

## 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).



# ACADEMIC HONORS, PRIZES, AND FELLOWSHIPS

## 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 W (or UW pre-Spring 2014) 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% of the graduating class, with no more than 5% *summa cum laude*, and the total of *summa and magna cum laude* not exceeding 15%. 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. Selection 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%, 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% 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 May graduates. Election to Phi Beta Kappa is noted on a student's transcript.

## PRIZES

While prizes are typically awarded annually, 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 Otte 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 SHELLOW 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.

#### **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.

#### **BENJAMIN F. ROMAINE PRIZE FUND**

(1922) Gift of Benjamin F. Romaine to provide an annual prize for proficiency in Greek language and literature.

#### **ERNEST STADLER PRIZE FOR THE EXCELLENCE IN THE STUDY OF CLASSICAL ANTIQUITY**

(2006) Established by Dr. Richard A. Brooks, Columbia College Class of 1953, and Dr. Eva Stadler Brooks, Barnard College Class of 1953, in memory of Dr. Stadler Brooks' father, Ernest Stadler, who had a life-long commitment to the study of classical antiquity. The prize may be awarded annually to a graduating senior of Columbia College who is judged by the faculty to have demonstrated academic excellence through course work and the writing of a senior essay on some aspect of the history or culture of the classical world.

#### **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 IN POLITICAL SCIENCE**

(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 IN HISTORY**

(2003) Established by the History Department for a senior thesis of superior distinction in any historical field and period.

#### **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.

#### **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.

#### **MYRA KRAFT PRIZE FOR EXCEPTIONAL PRACTICAL EXPERIENCE IN HUMAN RIGHTS ADVOCACY**

(2013) Established to honor the memory of Myra Kraft, beloved wife of Robert Kraft, Class of 1963 and Trustee Emeritus, this prize is awarded to the rising Columbia College senior majoring in Human Rights who submits the best proposal for a summer or one-term human rights internship.

#### **MYRA KRAFT PRIZE FOR SUPERIOR ACADEMIC ACHIEVEMENT IN THE STUDY OF HUMAN RIGHTS**

(2013) Established to honor the memory of Myra Kraft, beloved wife of Robert Kraft, Class of 1963 and Trustee Emeritus, this prize is awarded to the Columbia College student majoring in Human Rights who has the highest grade point average and a superior record of academic achievement in Human Rights.

### **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.

#### **THE BRIDGES AND STURTEVANT PRIZE IN BIOLOGICAL SCIENCES**

(2012) Established in honor of Calvin Bridges and Alfred Sturtevant whose pioneering studies as Columbia College undergraduates—using the fruit fly *Drosophila melanogaster* in Thomas Hunt Morgan's laboratory—laid the basis for our understanding of genes and the way they behave. The prize may be awarded annually to a graduating senior whose experimental or computational research is deemed by the faculty to have been both highly original and fruitful.

#### **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.

#### **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.

#### **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.

#### **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

### 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 bequest 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****HERBERT DERESIEWICZ SUMMER RESEARCH FELLOWSHIP**

(2011) Established in memory of Professor Herbert Deresiewicz, a long time SEAS faculty member and department chairman who held a deep and abiding love for undergraduate teaching, the Herbert Deresiewicz Summer Research Fellowship provides support for a Columbia College or SEAS student who is a U.S. citizen or permanent resident, and whose interest in science has been kindled by his or her experiences at Columbia. The recipient, selected by a faculty committee, will engage in full-time laboratory research on the Morningside Heights campus in one of the following Columbia University academic departments: Biological Sciences, Biomedical Engineering, Chemistry, or Chemical Engineering.

**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 Ph.D. 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.

**SANFORD S. PARKER PRIZE SUMMER FELLOWSHIPS**

(1980) Awarded to Columbia College juniors in order to conduct summer research projects. Recipients will show promise of doing original work, and demonstrate boldness of thought and a commitment to excellence. Funded by the family and friends of Sanford S. Parker, Class of 1937.

**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 continuing 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.

**THE PHYLLIS STEVENS SHARP FELLOWSHIP IN AMERICAN POLITICS**

(2005) The Phyllis Stevens Sharp Endowment Fund, established in 2005, provides stipends to Political Science students to support research in American politics or policymaking or otherwise uncompensated internships in a government office, agency or other organization serving the public.

**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.

# STANDARDS AND DISCIPLINE

As members of the Columbia University community, all Columbia College students are expected to uphold the highest standards of integrity, civility, and respect. Students are therefore expected to conduct themselves in an honest, civil, and respectful manner in all aspects of their lives. Students who violate these standards of behavior interfere with their ability, and the ability of others, to take advantage of the full complement of University life and are subject to Dean's Discipline.

The continuance of each student upon the rolls of the University, the receipt of academic credits, graduation, and the conferring of any degree or the granting of any certificate are strictly subject to the disciplinary powers of the University. Although ultimate authority on matters of students discipline is vested in the Trustees of the University, the Dean of Columbia College and his staff are given responsibility for establishing standards of behavior for Columbia College students beyond the regulations included in the Statutes of the University and for defining procedures by which discipline will be administered.

## BEHAVIORAL VIOLATIONS

Behavioral violations of University policy include, but are not limited to, the following:

- Knowingly or recklessly endangering the health or safety of others;
- Participating in any activity involving arson, firecrackers, explosives, or firearms;
- Throwing or dropping items out of University buildings;
- Threatening, harassing, or abusing others, whether directly or indirectly, in person or via electronic means;
- Manufacturing, possessing, using, or distributing illegal drugs;
- Intentionally or recklessly destroying, damaging, or stealing property;
- Failing to respond to legitimate requests from University officials;
- Violating any local, state, or federal laws.

## 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 violations of academic integrity severely inhibits a student's opportunity to mature academically, professionally, and socially. Consequently, a violation of academic integrity is one of the most serious offenses a student can commit at Columbia University.

Violations of academic integrity may be intentional or unintentional and can include, 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. Facilitating academic dishonesty by enabling another to engage in such behavior;
10. Lying to an instructor or University officer;
11. 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;
12. Fabrication of credentials in materials submitted to the University for administrative or academic review.

## DEAN'S DISCIPLINE OVERVIEW

It is expected that all students act in an honest way and respect the rights of others at all times. Dean's Discipline is the process utilized by Columbia College to investigate and respond to allegations of behavioral or academic misconduct. The Dean's Discipline process aims to educate students about the impact their behavior may have on their own lives as well as on the greater community and, as a result, is not meant to be an adversarial or legal process.

The process is initiated when an allegation is reported that a student has violated Columbia College or University policies. Students may be subject to Dean's Discipline for any activity that occurs on or off campus that impinges on the rights of other students and community members. This also includes violations of local, state, or federal laws.

The Office of Judicial Affairs and Community Standards is responsible for all disciplinary affairs concerning undergraduate students that are not reserved to some other body.

Columbia College students are expected to familiarize themselves with the Handbook of Standards and Discipline and the comprehensive list of policies and expectations available on the website of the Office of Judicial Affairs and Community Standards.

# COLUMBIA UNIVERSITY POLICIES

Since policies and procedures are subject to change, please check the Columbia University website ([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*: [www.essential-policies.columbia.edu](http://www.essential-policies.columbia.edu), which includes 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
- Gender-Based Misconduct Policies
- 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

## 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 Center for Student Advising in 403 Lerner Hall. 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 [registrar.columbia.edu/registrar-forms/application-replacement-diploma](http://registrar.columbia.edu/registrar-forms/application-replacement-diploma)

For additional information, see the following websites:  
[www.columbia.edu/cu/registrar/docs/forms/app-for-deg-or-cert.html](http://www.columbia.edu/cu/registrar/docs/forms/app-for-deg-or-cert.html)  
[registrar.columbia.edu/students/graduation-and-diplomas](http://registrar.columbia.edu/students/graduation-and-diplomas)  
[www.columbia.edu/cu/ceremonies/commencement/](http://www.columbia.edu/cu/ceremonies/commencement/)

## 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 (<http://fas.columbia.edu>) .

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.

Columbia College students can learn more about how to initiate a concern, complaint, or grievance on the Columbia College website (<http://www.college.columbia.edu/academics/complaints-studentinformation>) .

We welcome students' thoughts on ways to clarify or enhance these procedures: Columbia College students may e-mail [cc-academicaffairs@columbia.edu](mailto:cc-academicaffairs@columbia.edu) .

## 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.

## STUDENT POLICIES AND PROCEDURES ON DISCRIMINATION AND HARASSMENT, GENDER-BASED MISCONDUCT POLICIES FOR STUDENTS AND CONSENSUAL ROMANTIC AND SEXUAL RELATIONSHIPS

Columbia University is committed to providing a learning, living, and working environment free from discrimination, harassment and gender-based and sexual misconduct. Consistent with this commitment and with applicable laws, the University does not tolerate discrimination, harassment or gender-based or sexual misconduct in any form and it provides students who believe that they have been subjected to conduct or behavior of this kind with mechanisms for seeking redress. All members of the University community are expected to adhere to the applicable policies, to cooperate with the procedures for responding to complaints of discrimination, harassment and gender-based and sexual misconduct, and to report conduct or behavior they believe to be in violation of these policies to the Office of Equal Opportunity and Affirmative Action (<http://eoaa.columbia.edu>) or Student Services for Gender-Based and Sexual Misconduct (<http://ssgbsm.columbia.edu>) . For additional information on these issues, policies and resources, please visit the Sexual Respect website at: <https://titleix.columbia.edu/> .

Complaints against students for gender-based misconduct are processed in accord with the Gender-Based Misconduct

Policies for Students ([http://ssgbsm.columbia.edu/files/gbsm/content/Gender-Based\\_Misconduct\\_Policies\\_Students.pdf](http://ssgbsm.columbia.edu/files/gbsm/content/Gender-Based_Misconduct_Policies_Students.pdf)) . Students who attend Barnard College and Teachers College as well as Columbia University are covered by these policies. The use of the term “gender-based misconduct” includes sexual assault, sexual harassment, gender-based harassment, stalking, and intimate partner violence. Columbia University’s Sexual Respect Online (<http://www.sexualrespect.columbia.edu>) provides additional information and resources for students, faculty, and staff.

Complaints against students for other forms of discrimination and harassment are processed in accord with the Student Policies and Procedures on Discrimination and Harassment ([http://eoaa.columbia.edu/files/eoaa/content/student\\_policies\\_procedures\\_discrim\\_harass\\_final\\_april\\_2013.pdf](http://eoaa.columbia.edu/files/eoaa/content/student_policies_procedures_discrim_harass_final_april_2013.pdf)) and should be filed with the Dean of Students of the school in which the accused student is enrolled.

Complaints against employees and third parties affiliated with the University for discrimination and harassment are processed in accord with the Employment Policies and Procedures on Discrimination and Harassment ([http://eoaa.columbia.edu/files/eoaa/content/ement\\_discrim\\_harass\\_april\\_2013\\_final.pdf](http://eoaa.columbia.edu/files/eoaa/content/ement_discrim_harass_april_2013_final.pdf)) . The use of the term “discrimination and harassment” includes discrimination, discriminatory harassment, gender-based harassment, stalking, intimate partner violence, sexual harassment, and sexual assault.

Columbia University maintains policies regarding consensual romantic and sexual relationships between faculty and students, and staff and students. The Faculty-Student Relationship Policy ([http://eoaa.columbia.edu/files/eoaa/content/consensual\\_relationship\\_policy\\_2d\\_july\\_2012\\_brochure.pdf](http://eoaa.columbia.edu/files/eoaa/content/consensual_relationship_policy_2d_july_2012_brochure.pdf)) states that no faculty member shall exercise academic or professional authority over any student with whom he or she has or previously has had a consensual romantic or sexual relationship. This policy covers all officers of instruction, research and the libraries, including student officers of instruction and research and teaching assistants. The Staff-Student Relationship Policy ([http://eoaa.columbia.edu/files/eoaa/content/consensual\\_relationship\\_staff\\_to\\_student.march2013.pdf](http://eoaa.columbia.edu/files/eoaa/content/consensual_relationship_staff_to_student.march2013.pdf)) states that no staff member at Columbia should participate in the supervision, employment actions, evaluation, advising or mentoring of any Columbia University student with whom that staff member has or has had a consensual romantic or sexual relationship, except in unusual circumstances, where explicit advance authorization has been obtained.

For further information and assistance, contact:

Office of Equal Opportunity and Affirmative Action  
103 Low Library, MC 4333  
<http://eoaa.columbia.edu/> ; [eoaa@columbia.edu](mailto:eoaa@columbia.edu) ;  
212-854-5511

Title IX Coordinator/Section 504 Officer for Columbia University  
Melissa Rooker, Associate Provost  
Office of Equal Opportunity and Affirmative Action, 103 Low Library  
[mrooker@columbia.edu](mailto:mrooker@columbia.edu) , 212-854-5511

Deputy Title IX Coordinator for Staff and Faculty Concerns  
Michael K. Dunn, Director of Investigations  
Office of Equal Opportunity and Affirmative Action, 103 Low Library  
[mkd2010@columbia.edu](mailto:mkd2010@columbia.edu) , 212-854-6699

Deputy Title IX Coordinator for Student Concerns (temporary)  
Virginia Ryan, Interim Assistant Director  
Student Services for Gender-Based and Sexual Misconduct, 108I Wien Hall  
[vmr2105@columbia.edu](mailto:vmr2105@columbia.edu) , 212-854-1717

Columbia offers a number of confidential resources to students who believe they were subjected to discrimination, harassment or gender-based or sexual misconduct and who do not wish to report to the University:

Counseling Services  
Columbia Morningside: 212-854-2878, CUMC:  
212-496-8491

Rape Crisis/Anti-Violence Support Center, 212-854-HELP

Office of the University Chaplain, 212-854-6242

Health Services\*  
Columbia Morningside (212) 854-2284, Columbia Morningside clinician-on-call (212)854-9797  
CUMC: 212-305-3400, CUMC clinician-on-call:  
212-305-3400

*\* Medical providers are considered confidential resources in the context of providing medical treatment to a patient.*

## 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.

## IMMUNIZATION REQUIREMENTS

### Meningococcal Meningitis Decision

New York State public health law requires that students 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 all students provide documentation of immunization for measles, mumps, and rubella (MMR) before registering for classes in their first term of study. There are several ways to provide documentation. In all cases, the Columbia University MMR form must be completed and submitted to the Columbia Health Immunization Compliance Office (<http://health.columbia.edu/students/immunization-compliance-requirements/immunization-compliance-requirements>) in Alfred Lerner Hall, no later than the specified term deadline listed on the *Academic Calendar* in this Bulletin. The Immunization Compliance Office is unable to accept health forms or immunization documentation via e-mail for privacy and security reasons. The blood test or MMR immunizations can be obtained at Columbia Health Medical Services.

For information about these requirements, e-mail [hs-enrollment@columbia.edu](mailto:hs-enrollment@columbia.edu), call 212-854-7210, or visit the Columbia Health Insurance and Immunization web site (<http://health.columbia.edu/insurance-and-immunization-compliance-offices>).

### Immunizations Recommendations

Columbia Health recommends that students receive all routine childhood vaccinations, an updated tetanus booster, vaccination for Hepatitis B (three-dose series), and varicella (chicken pox). These vaccines are available at Columbia Health Medical Services. Students paying the Columbia Health Fee are not charged for the following vaccines when administered at Medical Services: MMR, Hepatitis A, Hepatitis B, Hepatitis Combination A and B, Influenza, Meningococcal Meningitis, Pneumococcal (if clinically indicated), Tetanus-Diphtheria, Tetanus-Diphtheria-Pertussis, and Varicella.

For all other vaccinations, students are charged for the cost of the vaccine. Vaccinations are available to students not paying the Columbia Health Fee for a minimal fee. For more information, please check on-line at [www.health.columbia.edu](http://www.health.columbia.edu).

# DEPARTMENTS, PROGRAMS, AND COURSES

This section contains a description of the curriculum of each department in the College, along with information regarding degree requirements for majors and concentrators, specific course information - including descriptions and registration information, elective courses, and suggestions about courses and programs in related fields.

Columbia College students should use the school bulletin for academic planning purposes, as not all courses in the University-wide *Directory of Classes* are open to Columbia College students.

The College reserves the right to withdraw or modify the courses of instruction or to change the instructors at any time.

- African-American Studies (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/african-american-studies>)
- American Studies (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/american-studies>)
- Ancient Studies (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/ancient-studies>)
- Anthropology (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/anthropology>)
- Archaeology (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/archaeology>)
- Architecture (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/architecture>)
- Art History and Archaeology (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/art-history-archaeology>)
- Astronomy (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/astronomy>)
- Biological Sciences (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/biological-sciences>)
- Business (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/business>)
- Chemistry (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/chemistry>)
- Classics (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/classics>)
- Colloquia, Interdepartmental Seminars, and Professional School Offerings (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/colloquia-interdepartmental-seminars-professional-school-offerings>)
- Comparative Literature and Society (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/comparative-literature-society>)
- Computer Science (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/computer-science>)
- Creative Writing (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/creative-writing>)
- Dance (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/dance>)
- Drama and Theatre Arts (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/drama-theatre-arts>)
- Earth and Environmental Sciences (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/earth-environmental-sciences>)
- East Asian Languages and Cultures (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/east-asian-languages-cultures>)
- Ecology, Evolution, and Environmental Biology (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/ecology-evolution-environmental-biology>)
- Economics (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/economics>)
- Education (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/education>)
- English and Comparative Literature (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/english-comparative-literature>)
- Ethnicity and Race Studies (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/ethnicity-race-studies>)
- Film Studies (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/film-studies>)
- French and Romance Philology (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/french-romance-philology>)
- Germanic Languages (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/germanic-languages>)
- History (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/history>)

- History and Philosophy of Science (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/history-philosophy-science>)
- Human Rights (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/human-rights>)
- Italian (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/italian>)
- Jazz Studies (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/jazz-studies>)
- Jewish Studies (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/jewish-studies>)
- Language Resource Center (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/language-resource-center>)
- Latin American and Caribbean Studies (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/latin-american-caribbean-studies>)
- Latin American and Iberian Cultures (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/latin-american-iberian-cultures>)
- Linguistics (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/linguistics>)
- Mathematics (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/mathematics>)
- Medieval and Renaissance Studies (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/medieval-renaissance-studies>)
- Middle Eastern, South Asian, and African Studies (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/middle-eastern-south-asian-african-studies>)
- Music (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/music>)
- Philosophy (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/philosophy>)
- Physical Education and Intercollegiate Athletics (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/physical-education-intercollegiate-athletics>)
- Physics (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/physics>)
- Political Science (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/political-science>)
- Psychology (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/psychology>)
- Regional Studies (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/regional-studies>)
- Religion (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/religion>)
- Slavic Languages (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/slavic-languages>)
- Sociology (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/sociology>)
- Statistics (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/statistics>)
- Sustainable Development (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/sustainable-development>)
- Urban Studies (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/urban-studies>)
- Visual Arts (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/visual-arts>)
- Women's and Gender Studies (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/womens-gender-studies>)



# AFRICAN-AMERICAN STUDIES

**Institute for Research in African-American Studies:** 758 Schermerhorn Extension; 212-854-7080  
<http://www.columbia.edu/cu/iraas/>

## **Director of the Institute for Research in African-American Studies:**

Prof. Samuel K. Roberts, 758 Schermerhorn Extension; 212-854-7080; skr2001@columbia.edu

**Director of Undergraduate Studies:** Prof. Josef Sorett, 80 Claremont Avenue; 212-854-4141; js3119@columbia.edu

**Assistant Director:** Shawn Mendoza, 758 Schermerhorn Extension; 212-854-8789; sm322@columbia.edu

**Administrative Assistant:** Sharon Harris, 758 Schermerhorn Extension; 212-854-7080; sh2004@columbia.edu

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.

## 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% 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.

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, thesis writers may find that the most optimal way in which to complete a thesis is to formally enroll in an AFAS independent study course with their thesis adviser as the instructor. **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 1, but certainly no later than the end of the fall semester.** In close consultation with the thesis adviser, students develop a viable topic, schedule of meetings, bibliography, and timeline for completion (including schedule of drafts and outlines).

## FACULTY

### SENIOR FACULTY

- Robert Gooding-Williams (Philosophy)
- Steven Gregory (Anthropology)
- Farah J. Griffin (English and Comparative Literature)
- Samuel K. Roberts (History)

- Sudhir A. Venkatesh (Sociology)

## JUNIOR FACULTY

- Kevin Fellezs (Music)
- Carla Shedd (Sociology)
- Josef Sorett (Religion)

## RESEARCH FELLOWS

- Marcellus Blount (English and Comparative Literature)
- Fredrick C. Harris (Political Science)
- Carl Hart (Psychology)
- Kellie E. Jones (Art History and Archaeology)
- Natasha Lightfoot (History)
- Dorian Warren (Political Science)
- Mabel Wilson (Architecture, Planning and Preservation)

## AFFILIATED FACULTY

- Christopher Brown (History)
- Maguette Camara (Dance, Barnard)
- Mamadou Diouf (Middle Eastern, South Asian, and African Studies)
- 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)
- Mahmood Mamdani (Anthropology)
- Gregory Mann (History)
- Alondra Nelson (Sociology & Women and Gender Studies)
- Valerie Purdie-Vaughns (Psychology)
- Gary Okihiro (School of International and Public Affairs)
- Robert O'Meally (English and Comparative Literature)
- David Scott (Anthropology)
- John Swzed (Music)
- Susan Strum (Law)

## REQUIREMENTS

### 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 no later than the end of their sophomore year. A minimum of 36 points is required for the major as follows:

AFAS C1001 Introduction to African-American Studies

AFAS C3936

One senior research seminar

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.

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.

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## 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 or a research seminar.

# AMERICAN STUDIES

**Program Office:** 319-321 Hamilton; 212-854-6698  
<http://www.columbia.edu/cu/amstudies/>

**Director:** Prof. Andrew Delbanco, 321 Hamilton;  
 212-854-6698; ad19@columbia.edu

**Associate Director:** Prof. Robert Amdur, 311 Hamilton;  
 212-854-4049; rla2@columbia.edu

**Assistant Director:** Angela Darling, 319 Hamilton;  
 212-854-6698; amd44@columbia.edu

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 504 Fayerweather; 212-854-1785; cb460@columbia.edu

**Chair, Advisory Board:** Prof. Robert Amdur, 311 Hamilton;  
 212-854-4049; rla2@columbia.edu

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 Columbia's 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.

## ADVISING

### DEPARTMENTAL HONORS

Students with a 3.6 minimum GPA in the major and an outstanding senior project are considered for honors. Normally no more than 10% of graduating majors receive departmental honors in a given year.

## FACULTY

### AFFILIATED FACULTY

- Rachel Adams (English and Comparative Literature)
- Casey N. Blake (History; American Studies)
- Jeremy Dauber (Germanic Languages)
- Andrew Delbanco (Humanities; American Studies)
- Robert A. Ferguson (Law; English and Comparative Literature)
- Eric Foner (History)
- Todd Gitlin (Journalism; Sociology)

- Farah Griffin (English and Comparative Literature)
- Alice Kessler-Harris (History)
- Shamus Khan (Sociology)
- Rebecca Kobrin (History)
- Roosevelt Montas (Core Curriculum)
- Ross Posnock (English and Comparative Literature; American Studies)
- Wayne Proudfoot (Religion)
- Jonathan Rieder (Sociology)
- Maura Spiegel (English and Comparative Literature)

## REQUIREMENTS

### GUIDELINES FOR ALL AMERICAN STUDIES MAJORS AND CONCENTRATORS

#### Declaring the Major or Concentration

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.

#### 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.

## MAJOR IN AMERICAN STUDIES

A minimum of 30 points is required to complete the major:

AMST Introduction to American Studies (Not  
 W1010 offered 2014-2016)

Two seminars in American studies

Two American studies core courses:

ENGL Foundations of American Literature  
 W3267

HIST U.S. Intellectual History, 1865 To the  
 W3478 Present

Four additional courses: In consultation with the adviser, the student chooses a set of four courses. These courses must be drawn from at least two departments, one of which must be history.

Senior research project: 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.

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## CONCENTRATION IN AMERICAN STUDIES

A minimum of 21 points is required to complete the concentration:

AMST W1010	Introduction to American Studies (Not offered 2014-2016)
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Two American studies core courses:

ENGL W3267	Foundations of American Literature
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HIST W3478	U.S. Intellectual History, 1865 To the Present
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Five additional courses: In consultation with the adviser, the student chooses a set of four courses. These courses must be drawn from at least two departments, one of which must be history.

# ANCIENT STUDIES

**Program Office:** 617 Hamilton; 212-854-3902;  
classics@columbia.edu  
<http://www.columbia.edu/cu/classics/>

**Director of Undergraduate Studies:** Prof. Katharina Volk,  
601 Hamilton; 212-854-5683; kv2018@columbia.edu

**Program Administrator:** Gerry Visco, 617 Hamilton;  
212-854-2726; gwv1@columbia.edu

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 ANCS V3995 The Major Seminar during the fall, and ANCS V3998 Directed Research In Ancient Studies is usually taken during the spring. Sections should be arranged directly with the academic departmental administrator after finding an adviser.

## REQUIREMENTS

### GUIDELINES 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.

## MAJOR IN ANCIENT STUDIES

The major in ancient studies requires 12 courses (a minimum of 36 points), two of which must be:

#### Major Seminar

ANCS V3995 The Major Seminar (fall term of senior year)

#### Senior Thesis

ANCS V3998 Directed Research In Ancient Studies (spring term of senior year)

The selected program of study for the major must collectively satisfy the following criteria:

#### Language Study \*

Two courses of an ancient language at or above the intermediate level, i.e. 1200-level or above.

#### Fundamental Breadth \*\*

Two introductory courses on some aspect of the ancient Mediterranean. Some examples include:

HIST W1010 The Ancient Greeks 800-146 B.C.E.  
or HIST W1020 The Romans, 754 BC to 565 AD

AHIS V3248 Greek Art and Architecture

or AHIS V3250 Roman Art and Architecture

PHIL V2101 The History of Philosophy I: Presocratics to Augustine

CLLT V3132 Classical Myth

#### Advanced Study

Two advanced courses on the ancient Mediterranean, typically at 3000- or 4000-level.

#### Cultural Concentration

Four courses on the culture of the language chosen, including one history course.



\* 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 generally match the student's area of cultural concentration; special arrangements are available with other universities for students whose cultural concentration 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.

\*\* Relevant introductory courses are offered by the Department of Classics or from offerings in the Programs or Departments of Ancient Studies, Art History and Archaeology, History, Philosophy, or Religion. Students should confirm a course's relevance with the director of undergraduate studies as soon as possible.

# ANTHROPOLOGY

**Departmental Office:** 452 Schermerhorn; 212-854-4552  
<http://www.columbia.edu/cu/anthropology>

**Director of Undergraduate Studies:** Prof. Audra Simpson, 857 Schermerhorn Extension; 212-854-5901;  
[as3575@columbia.edu](mailto:as3575@columbia.edu)

**Departmental Consultants:**

*Archaeology:* Prof. Zoë Crossland, 965 Schermerhorn;  
 212-854-7465; [zc2149@columbia.edu](mailto:zc2149@columbia.edu)

*Biological/Physical Anthropology:* Prof. Ralph Holloway, 856 Schermerhorn; 212-854-4570; [rlh2@columbia.edu](mailto:rlh2@columbia.edu)

**Departmental Administrator:** Esperanza Soriano, 452 Schermerhorn; 212-854-4552; [ecs2@columbia.edu](mailto:ecs2@columbia.edu)

**Undergraduate Secretary:** Marilyn Astwood, 452 Schermerhorn; 212-854-4552; [mp20@columbia.edu](mailto:mp20@columbia.edu)

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 fosters 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 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. Additionally, they write 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 traditionally offered courses and majors in three main areas: sociocultural anthropology, archaeology, and biological/physical anthropology. While the sociocultural anthropology program 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. Biological/physical anthropology has shifted its program to the Department of Ecology, Evolution, and Environmental Biology. The Anthropology Department enthusiastically encourages cross-disciplinary and participation in study abroad programs.

## SOCIOCULTURAL ANTHROPOLOGY

At the heart of sociocultural anthropology is an exploration of the possibilities of difference and the craft of writing. Sociocultural anthropology at Columbia has emerged as a particularly compelling undergraduate liberal arts major. Recently, the number of majors in sociocultural anthropology has more than tripled.

Students 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, literature, history, human rights, art, linguistics, environment, medicine, film, and many other fields, including geographical areas of 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 intellectual expansiveness and interdisciplinary spirit.

## 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 development of ancient states and empires, especially in the indigenous Americas; the impact of colonial encounters on communities in the American Southwest, the Levant and Africa; human-animal relations in prehistory, religion and ritual, and the archaeology of the dead.

Themes in our teaching 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. The program includes the possibility of student internships in New York City museums and archaeological fieldwork in the Americas and elsewhere.

## ADVISING

Majors and concentrators should consult the director of undergraduate studies when entering the department and devising programs of study. Students may also seek academic advice from any anthropology faculty member, as many faculty members 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.

## HONORS THESIS

Anthropology majors with a minimum grade point average of 3.6 in the major who wish to write an honors thesis for departmental honors consideration may enroll in ANTH V3999 The Senior Thesis Seminar in Anthropology. Students should have a preliminary concept for their thesis prior to course enrollment. Normally no more than 10% of the graduating majors each year may receive departmental honors.

## FACULTY

### PROFESSORS

- Nadia Abu El-Haj (Barnard)
- Lila Abu-Lughod
- Partha Chatterjee
- Myron L. Cohen
- Terence D'Altroy
- E. Valentine Daniel
- 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
- Paige West (Barnard)

### ASSOCIATE PROFESSORS

- Elaine Combs-Schilling
- Marilyn Ivy
- Brian Larkin (Barnard)
- John Pemberton

### ASSISTANT PROFESSORS

- Zoe Crossland
- Catherine Fennell
- Severin Fowles
- Hlonipha Mokoena
- Stephen K. Scott (Barnard)
- Audra Simpson
- Maxine Weisgrau (Barnard)

## LECTURERS

- Brian Boyd
- Ellen Marakowitz
- Karen Seeley

## ADJUNCT RESEARCH SCHOLAR

- Laurel Kendall

## REQUIREMENTS

### GUIDELINES FOR ALL ANTHROPOLOGY MAJORS AND CONCENTRATORS

#### 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 offered in other departments count toward the major and concentration only when taught by a member of the Department of Anthropology. Courses from other departments not taught by anthropology faculty must have the approval of the director of undergraduate studies in order to count toward the major or concentration.

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## MAJOR IN ANTHROPOLOGY

The program of study should be planned as early as possible in consultation with the director of undergraduate studies and/or department 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 Focus

ANTH V1002 The Interpretation of Culture

ANTH V2004 Introduction to Social and Cultural Theory

ANTH V2005 The Ethnographic Imagination

Two courses (from within anthropology or from another department) that focus on a particular culture, nation, or literature

Additional courses (from within anthropology or from another department) to meet the required minimum points for the major

#### Archaeology Focus

ANTH V1002 The Interpretation of Culture

ANTH V2004 Introduction to Social and Cultural Theory

ACLG V2028 Pasts, Presents & Futures: An Introduction to 21st Century Archaeology

Two courses (from within anthropology or from another department) that focus on a particular culture, nation, or literature

Additional courses (from within anthropology or from another department) to meet the required minimum points for the major

NOTE: Students wishing to pursue an interdisciplinary major in archaeology should see the *Archaeology* section of this Bulletin.

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### Biological/Physical Focus

Students interested in studying this field should refer to the major in evolutionary biology of the human species in the Department of Ecology, Evolution, and Environmental Biology (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/ecology-evolution-environmental-biology>) .

Students interested in studying this field should refer to the major in evolutionary biology of the human species in the Department of Ecology, Evolution, and Environmental Biology (<http://bulletin.columbia.edu/archive/2014-15/general-studies/undergraduates/majors-concentrations/ecology-evolution-environmental-biology>) .

[archive/2014-15/columbia-college/departments-instruction/ecology-evolution-environmental-biology](http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/ecology-evolution-environmental-biology)) .

Students interested in pursuing study in this field should refer to the concentration in evolutionary biology of the human species in the Department of Ecology, Evolution, and Environmental Biology (<http://bulletin.columbia.edu/archive/2014-15/general-studies/undergraduates/majors-concentrations/ecology-evolution-environmental-biology>) .

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## CONCENTRATION IN ANTHROPOLOGY

A minimum of 20 points in the Department of Anthropology are required as follows:

### Sociocultural Focus

ANTH V1002 The Interpretation of Culture

Additional courses (from within anthropology or from another department) to meet the required minimum points for the concentration

### Archaeology Focus

ACLG V2028 Past, Presents & Futures: An Introduction to 21st Century Archaeology

Additional courses (from within anthropology or from another department) to meet the required minimum points for the concentration

### Biological/Physical Focus

Students interested in pursuing study in this field should refer to the concentration in evolutionary biology of the human species in the Department of Ecology, Evolution, and Environmental Biology (<http://bulletin.columbia.edu/>

## ARCHAEOLOGY

**The Columbia Center for Archaeology:** 965 Schermerhorn Extension  
<http://www.columbia.edu/cu/archaeology>

**Director of Undergraduate Studies:** Prof. Zoë Crossland, 965 Schermerhorn Extension; 212-854-7465; [zc2149@columbia.edu](mailto:zc2149@columbia.edu)

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 program advisers. Normally no more than 10% of the graduating majors in the department each year may receive departmental honors.

## FACULTY PROFESSORS

- Terence D'Altroy
- Richard Fairbanks
- William V. Harris
- Stephen Murray
- Esther Pasztory (*emerita*)
- Nan Rothschild (Barnard, *emerita*)
- Marc Van De Mieroop

## ASSOCIATE PROFESSORS

- Francesco de Angelis
- Zainab Bahrani
- Francesco Benelli
- Zoë Crossland
- Severin Fowles (Barnard)
- Holger Klein
- Feng Li
- Kristina Milnor (Barnard)
- Ioannis Mylonopoulos

## ASSISTANT PROFESSORS

- Ellen Morris (Barnard)
- Marco Maiuro

## ADJUNCT/VISITING PROFESSORS

- Brian Boyd
- Pamela Jerome
- Megan O'Neil (Barnard)
- Walter Pitman
- John Stubbs
- Adam Watson
- Norman Weiss
- George Wheeler

## LECTURERS

- Clarence Gifford
- Jill Shapiro

## REQUIREMENTS GUIDELINES 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.

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## MAJOR IN ARCHAEOLOGY

Please read *Guidelines for all Archaeology Majors and Concentrators* above.

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. The major in archaeology requires a total of 30 points within the major and 9 points of related courses as follows:

Introductory courses:

ACLG V2028 Pasts, Presents & Futures: An Introduction to 21st Century Archaeology

ANTH V1008 The Rise of Civilization  
or ANTH V1007 The Origins of Human Society

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, or relevant museum internship and/or lab work. \*

One laboratory course in archaeology or its equivalent in the field, as approved by the program advisers.

The capstone seminar in archaeology:

ANTH V3993 World Archaeologies/Global Perspectives \*\*

Select 9 points of related courses, 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. \*\*\*

\* The field, school, project or internship must be approved in advance by the program advisers, and arrangements should be made in advance with the director of undergraduate studies for credits to be accepted as part of the degree. For more information, see the Center for Archaeology (<http://www.columbia.edu/cu/archaeology>) website.

\*\* Taught alternate years, preferably taken in the junior or senior year, or a substitute seminar to be decided with the advance approval of the director of undergraduate studies. Students who are writing a thesis may substitute a thesis seminar for this requirement.

\*\*\* 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, students may register for two semesters of senior thesis study with their adviser, e.g., ANTH W3997 Supervised Individual Research Course In Anthropology or AHIS C3997 Senior Thesis, to cover the writing of the thesis, the final draft of which must be submitted by March 25. (See the Center for Archaeology (<http://www.columbia.edu/cu/archaeology>) webpages for more information.)

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## CONCENTRATION IN ARCHAEOLOGY

Please read *Guidelines for all Archaeology Majors and Concentrators* above.

The program of study should be planned with the program advisers. The concentration in archaeology requires 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:

Select one of the following introductory courses:

ANTH V1007 The Origins of Human Society

ANTH V1008 The Rise of Civilization

ACLG V2028 Pasts, Presents & Futures: An Introduction to 21st Century Archaeology

One seminar or colloquium in the Departments of Anthropology, Art History and Archaeology, Classics, or History, as approved by the program advisers.

Three upper-level courses, including at least one from two different regions of the world.

One related course, planned with the program advisers in accordance with the student's interests.

# ARCHITECTURE

500 The Diana Center  
212-854-8430  
212-854-8442 (fax)  
architecture@barnard.edu  
<https://architecture.barnard.edu/>  
Department Assistant: Rachel Garcia-Grossman

## THE DEPARTMENT OF ARCHITECTURE

### Mission

The Architecture major establishes an intellectual context for students to interpret the relation of form, space, program, materials and media to human life and thought. Through the Architecture curriculum, students participate in the ongoing shaping of knowledge about the built environment and learn to see architecture as one among many forms of cultural production. At the same time, the major stresses the necessity of learning disciplinary-specific tools, methods, terms and critiques. Thus, work in the studio, lecture or seminar asks that students treat architecture as a form of research and speculation which complement the liberal arts mission of expansive thinking.

### Undergraduate Study in Architecture

Studying Architecture at Barnard and Columbia Colleges leads to a liberal arts degree – a Bachelor of Arts with a major in Architecture, and Barnard College is the administrative location for all undergraduate architecture studies at Columbia University and its partner institutions. A liberal arts education in architecture holds a unique position in academia and in relation to the discipline. If the goal of a professional education in architecture is to enable students to participate directly in the world as an architect – a liberal arts education asks that students consider the broader and myriad conditions in which architecture is conceived and practiced and, in turn, to understand how architecture inevitably alters those conditions. Students are asked to confront and interpret the complex social, cultural, political, and environmental processes that weave through architectural design and urbanism. The purpose of an undergraduate liberal arts degree in architecture is to educate students to think about the world through architecture.

The Architecture curriculum introduces design at a variety of scales, acknowledging that integrated design thinking is effective for problem solving at any scale and in any discipline. Students will experiment with full-scale installations and devices and make small-scale models of urban conditions from which they extract, interpret and invent new possibilities of inhabitation and use. The curriculum intentionally balances the traditions of handcrafted representation with

evolving digital technologies of architectural design and communication.

The Architecture major complements, and makes great use of its University setting. With access to superb libraries, research centers, graduate programs, and abundant intellectual resources, our students have the opportunity to follow their creative instincts to great depth and breadth – and they do. The major depends on New York City as more than a convenient site for many design and research projects and frames the City as one of the key social and architectural, and thus didactic, markers of Modernity. Architecture students study with peers from countries around the world in one of the most diverse cities in the world. A large majority of the Architecture students expand their education by interning in Architecture or a related field during their undergraduate studies. Alumni of the Department are leaders in architecture and design fields around the world. The faculty teaching in the undergraduate program are dedicated teachers who are also at the forefront of practice and research and are similarly drawn to New York City as a nexus of global design thinking.

Students interested in obtaining a professional degree in Architecture continue on to graduate programs after their undergraduate degree, and students from the Barnard-Columbia program have enjoyed enormous success in their admissions to the most competitive graduate programs in the country. Students who study Architecture as undergraduates have also pursued graduate degrees in a variety of disciplines including Urban Planning, Law, and Media and Communications.

### Student Learning Outcomes

Students in the Architecture Majors who fully engage with the curriculum should be able to complete the following outcomes:

- Apply integrated design thinking to specific problems in and beyond the discipline;
- Visually communicate architectural concepts and research using discipline-specific techniques in multiple media;
- Verbally present independent, group or assigned research, in multiple media formats;
- Organize and concisely write in a variety of formats including reports, case studies, synthetic overviews, etc.;
- Understand and critically interpret major buildings and themes of Architectural history and theory;
- Be intellectually prepared for graduate studies in architecture and related disciplines.

### Departmental Honors

Senior requirements (a portfolio and research paper from a previous architecture course) 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% of

the graduating majors in the department each year receive departmental honors.

## FACULTY

**Chair:** Karen Fairbanks (Professor of Professional Practice)

**Professor of Professional Practice:** Kadambari Baxi

**Term Professors:** Leah Meisterlin, Ralph Ghoche

**Adjunct Professors:** Jobb Moore, Madeline Schwartzman, Suzanne Stephens

**Adjunct Assistant Professors:** Marcelo Lopez-Dinardi, Diana Martinez, Nicole Robertson, Todd Rouhe, Irina Schneid, Don Shillingburg, Fred Tang, Irina Verona, Peter Zuspan

## REQUIREMENTS

### MAJOR IN ARCHITECTURE

The major in architecture requires a total of 14 courses, distributed as follows:

#### Studio Courses

Four studio courses, to be taken one per semester (studio courses have limited enrollment and priority is given to Architecture majors):

ARCH V3101 Architectural Representation: Abstraction

ARCH V3103 Architectural Representation: Perception

ARCH V3201 Architectural Design, I

ARCH V3202 Architectural Design, II

#### Required History/Theory Courses \*

Five elective courses following the distribution requirement below:

ARCH V3117 Perceptions of Architecture

One course with a topic that is pre-1750

One course with a topic that is post-1750

Two electives (it is suggested that one of these be on a non-western topic)

#### Senior Courses \*

ARCH V3901 Senior Seminar

Either a second Senior Seminar (from our program), a seminar from a related department (and related to student's disciplinary specialization/cluster), Architectural Design III, or Independent Research

#### Cluster of Related Courses

Three courses which together focus student interest in a related department or departments. (These may not overlap with history/theory courses or senior courses.)

#### Senior Requirements

Portfolio

Research Paper from Senior Seminar or Senior Course

\* These are courses offered by the architecture department or other applicable departments offered within the University. Students should consult the program office for a list of applicable courses each semester.

# ART HISTORY AND ARCHAEOLOGY

**Departmental Office:** 826 Schermerhorn; 212-854-4505  
<http://www.columbia.edu/cu/arhistory/>

**Director of Undergraduate Studies:** Prof. Kellie Jones, 909 Schermerhorn; 212-854-8084; [kej2110@columbia.edu](mailto:kej2110@columbia.edu)

**Chair of Art Humanities:** Prof. Branden Joseph, 613 Schermerhorn; 212-854-2811; [bwj4@columbia.edu](mailto:bwj4@columbia.edu)

**Undergraduate Program Coordinator:** Amanda Young, 826 Schermerhorn; 212-854-4505; [ary2110@columbia.edu](mailto:ary2110@columbia.edu)

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 are applicable to the major. The form to petition for transfer credit can be found at <http://www.columbia.edu/cu/arhistory/undergraduate/forms.html>. 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 visit the department office and speak with the student coordinator about the requirements and their planned curriculum.

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 e-mail the undergraduate program coordinator. The director of undergraduate studies is also available to talk to students about their professional goals and plans to study abroad.

## 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. For additional information, see the department website at <http://www.columbia.edu/cu/arhistory/>.

### 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 PDF format in "Planning Sheets and Forms" under the "Undergraduate" section of the department website at <http://www.columbia.edu/cu/arhistory/>.

### Travel Seminar

In the spring, one or more undergraduate seminars in the Department of Art History and Archaeology may be designated as a traveling seminar. Travel seminars receive 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, visit the Office of Global Programs (<http://ogp.columbia.edu>) website.

### 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, visit the Office of Global Programs (<http://ogp.columbia.edu>) website.

## 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% 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.

## FACULTY

### PROFESSORS

- Alexander Alberro (Barnard)
- Zainab Bahrani
- Barry Bergdoll
- Michael Cole
- Jonathan Crary
- Vidya Dehejia
- David Freedberg
- Robert E. Harrist, Jr.
- Anne Higonnet (Barnard)
- Holger Klein
- Rosalind Krauss
- Branden Joseph
- Matthew McKelway
- Keith Moxey (Barnard)
- Stephen Murray
- Jonathan Reynolds (Barnard)
- Simon Schama
- Avinoam Shalem
- Zoë Strother

### ASSOCIATE PROFESSORS

- Francesco de Angelis
- Elizabeth Hutchinson (Barnard)
- Kellie Jones
- John Miller (Barnard)
- Ioannis Mylonopoulos

### ASSISTANT PROFESSORS

- Diane Bodart
- Noam M. Elcott
- Megan O'Neil (Barnard)

### ADJUNCT FACULTY

- Margaret Ainsworth (Barnard)
- Dawn Delbanco

- Rosalyn Deutsche (Barnard)
- Christopher Phillips (Barnard)
- John Rajchman
- Carolyn Yerkes

## LECTURERS

- Joseph Ackley
- Frederique Baumgartner
- Anastassia Botchkareva
- Catherine Girard
- Marsley Kehoe
- Carolina Mangone
- Kent Minturn

## ON LEAVE

- Profs. Cole, McKelway (2014-2015)
- Profs. Bergdoll, Dehejia, Freedberg, Murray (Fall 2014)
- Prof. Mylonopoulos (Reid Hall, Spring 2015)

## REQUIREMENTS

### GUIDELINES 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 35-45 pages in length. It is a yearlong project, and students writing a thesis are registered by the department for *AHIS C3997 Senior Thesis* for the fall and spring terms. Normally the fall semester is devoted to research, the spring semester to writing.

All thesis writers are required to participate in a class and on alternate weeks, students meet as a group or individually with the instructor. Group meetings are designed as a series of research and writing workshops geared to the students' research projects. Students receive a total of six credits for successful completion of the thesis and class.

In order to apply, students follow a selection process 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. The student then submits an application, with an indication of the



subject of the thesis, a short annotated bibliography, 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. Submissions should be delivered in hard copy to the department's office, and are addressed to the director of undergraduate studies. The director, in consultation with the thesis adviser and class instructor, 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. Currently, there are several fellowships for which students may apply that support thesis related research and travel during the summer and senior year.

Applications for writing a thesis can be found at <http://www.columbia.edu/cu/arhistory/undergraduate/forms.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 the spring semester. Students will be notified of deadlines and further information as they become available. Please contact the undergraduate program coordinator with any questions.

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## MAJOR IN ART HISTORY

The yearlong senior thesis (for qualified students; see below) *AHIS C3997 Senior Thesis* 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:

AHIS W3895 Majors' Colloquium: the Literature and Methods of Art History

Seven 3-point lecture courses in art history:

At least one course in three of four historical periods, as listed below.

An additional two courses drawn from at least two different world regions, as listed below.

Two additional lectures of the student's choice

Two seminars in art history

A studio course in the visual arts or architecture (which may be taken Pass/D/ Fail)

### Historical Periods

- Ancient (up to 400 CE/AD)
- 400-1400
- 1400-1700
- 1700-Present

### World Regions

- Africa
- Asia
- Europe, North America, Australia
- Latin America
- Middle East

NOTE: These chronological divisions are approximate. In case of ambiguities about the eligibility of a course to fill the requirement, please consult the director of undergraduate studies.

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## 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:

AHIS W3895 Majors' Colloquium: the Literature and Methods of Art History

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

At least one seminar in art history or architectural history

Architectural Studio:

ARCH	Introduction To Architectural Design and
V1020	Visual Culture

## 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:

AHIS W3895 Majors' Colloquium: the Literature and Methods of Art History

Seven 3-point lecture courses in art history.

At least one course in three of four historical periods, as listed below.

An additional two courses drawn from at least two different world regions, as listed below.

Two additional lectures of the student's choice

21 points in Visual Arts covering:

VIAR Basic Drawing  
R1001

VIAR Sculpture I  
R3330

Five additional VIAR R3000-level or above course

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).

NOTE: These chronological divisions are approximate. In case of ambiguities about the eligibility of a course to fill the requirement, please consult the director of undergraduate studies.

### Historical Periods

- Ancient (up to 400 CE/AD)
- 400-1400
- 1400-1700
- 1700-present

### World Regions

- Africa
- Asia
- Europe, North America, Australia
- Latin America
- Middle East

## CONCENTRATION IN ART HISTORY

Seven 3-point lecture courses in art history.

At least one course in three of four historical periods, as listed below.

An additional two courses drawn from at least two different world regions, as listed below.

Two additional lectures of the student's choice

NOTE: These chronological divisions are approximate. In case of ambiguities about the eligibility of a course to fill the requirement, please consult the director of undergraduate studies.

### Historical Periods

- Ancient (up to 400 CE/AD)
- 400-1400
- 1400-1700
- 1700-present

### World Regions

- Africa
- Asia
- Europe, North America, Australia
- Latin America
- Middle East

Concentrators are not required to take the majors' colloquium, a seminar, or a studio course.

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## 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.

## ASTRONOMY

**Departmental Office:** 1328 Pupin; 212-854-3278  
<http://www.astro.columbia.edu>

**Director of Undergraduate Studies:** Prof. Mary E. Putman,  
 1318 Pupin; 212-854-6831; [mputman@astro.columbia.edu](mailto:mputman@astro.columbia.edu)

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 standard physics major sequence; a yearlong introduction to astrophysics (typically taken in the sophomore year, but open to first-years with adequate preparation in calculus and physics); and two required courses covering advanced topics in astronomy. Research, in the form of summer internships and/or term-time independent projects, which can lead to a senior thesis, is strongly encouraged. For a research thesis, students should enroll in the parallel, two-semester sequence *ASTR C3997 Independent Research-ASTR C3998 Independent Research*, preferably in their senior year. Students begin the research project in the fall and complete the written thesis in the spring. *ASTR C3997 Independent Research* and *ASTR W3998 Independent Research* cannot be repeated for credit.

The astronomy major provides a basis for further study in the field, but is also designed to be compatible with liberal arts students who pursue other careers and those wishing to combine astronomy with related sciences other than physics, such as chemistry or geology. It requires only two physics courses beyond the introductory sequence and can be completed easily if begun in the sophomore year.

The department offers numerous introductory astronomy courses at the 1000-level that do not have prerequisites. The calculus-based *ASTR C2001 Introduction To Astrophysics, I-ASTR W2002 Introduction To Astrophysics, II* sequence is recommended for astronomy majors and concentrators and is required for astrophysics majors. Most 3000-level courses are offered every other year. Students should inquire with the director of undergraduate studies if they have specific questions on the course schedule. *ASTR C3996 Current Research in Astrophysics* is a one-point course offered in the fall, designed to introduce majors to research methods and topics. It requires students to attend the department colloquia and a seminar designed to help students understand the colloquium topic. The 3000-level courses need not be taken in any particular order.

## FACULTY PROFESSORS

- James Applegate
- Arlin Crotts
- Greg Bryan
- Zoltan Haiman
- Jules P. Halpern
- David J. Helfand
- Kathryn Johnston (Chair)
- Laura Kay (Barnard)
- Jeremiah P. Ostriker
- Frederik B. S. Paerels
- Joseph Patterson
- Edward A. Spiegel (*emeritus*)
- Jacqueline van Gorkom

## ASSOCIATE PROFESSORS

- Mary E. Putman
- David Schiminovich

## ASSISTANT PROFESSOR

- Marcel Agüeros

## ADJUNCT PROFESSOR

- Michael Shara (Hayden Planetarium)

## ADJUNCT ASSOCIATE PROFESSORS

- Mordecai-Mark MacLow (Hayden Planetarium)
- Benjamin Oppenheimer (Hayden Planetarium)
- Caleb Scharf

## ON LEAVE

- Profs. Crotts, Halpern, Helfand (*2014-2015*)
- Profs. Johnston, Ostriker (*Fall 2014*)
- Profs. Paerels, Putman (*Spring 2015*)

## REQUIREMENTS

### GUIDELINES 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.

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## 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 and II* or *PHYS BC3006 Quantum Physics*. One of these may be substituted for three points of astronomy. The major requirements, to be planned with the director of undergraduate studies, are as follows:

Calculus sequence through MATH V1202 Calculus IV or MATH V1208 Honors Mathematics IV

Select one of the following:

Two 3-point 1000-level astronomy courses and 12 points in astronomy at the 2000-level or above

ASTR C2001 Introduction To Astrophysics, I and Introduction To Astrophysics, II (and - ASTR W2002 9 points in astronomy at the 3000-level or above)

Select one of the following sequences:

PHYS C1401 Introduction To Mechanics and Thermodynamics  
- PHYS C1402 and Introduction To Electricity, Magnetism, and Optics  
- PHYS C1403 and Introduction to Classical and Quantum Waves

PHYS C1601 Physics, I: Mechanics and Relativity and Physics, II: Thermodynamics, Electricity, and Magnetism  
- PHYS C1602 and Physics, III: Classical and Quantum Waves  
- PHYS C2601

PHYS C2801 Accelerated Physics, I and II and Accelerated Physics, I and II  
- PHYS C2802

Two physics courses at the 3000-level or above

## MAJOR IN ASTROPHYSICS

The major requires a minimum of 50 points, to be planned with the director of undergraduate studies before the beginning of the junior year, and are as follows:

Calculus sequence through MATH V1202 Calculus IV or MATH V1208 Honors Mathematics IV

ASTR C2001 Introduction To Astrophysics, I and Introduction To Astrophysics, II (formerly ASTR C2002)  
- ASTR W2002

Six points in astronomy at the 3000-level or above

Select one of the following sequences:

PHYS C1401 Introduction To Mechanics and Thermodynamics  
- PHYS C1402 and Introduction To Electricity, Magnetism, and Optics  
- PHYS C1403 and Introduction to Classical and Quantum Waves

PHYS C1601 Physics, I: Mechanics and Relativity and Physics, II: Thermodynamics, Electricity, and Magnetism  
- PHYS C1602 and Physics, III: Classical and Quantum Waves  
- PHYS C2601

PHYS C2801 Accelerated Physics, I and II and Accelerated Physics, I and II  
- PHYS C2802

PHYS W3003 Mechanics

PHYS W3007 Electricity and Magnetism

PHYS W3008 Electromagnetic Waves and Optics

PHYS G4021 Quantum Mechanics, I and II

or PHYS BC3006 Quantum Physics

PHYS G4022 Quantum Mechanics, I and II  
or PHYS G4023 Thermal and Statistical Physics

## 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 concentration requirements are as follows:

Nine points of mathematics

15 points of astronomy, nine of which must be at or above the 2000-level

Nine points of physics

# BIOLOGICAL SCIENCES

**Departmental Office:** 600 Fairchild, 212-854-4581;  
undergrad@biology.columbia.edu  
<http://www.columbia.edu/cu/biology/>

**Director of Undergraduate Studies, Undergraduate Programs and Laboratories:**

Prof. Deborah Mowshowitz, 744D Mudd; 212-854-4497;  
dbm2@columbia.edu

**Biology Major and Concentration Advisers:**

For a list of current biology, biochemistry, biophysics, and neuroscience and behavior advisers, please see <http://www.columbia.edu/cu/biology/pages/undergrad/cur/advising/index.html>

**Biology Major and Concentration Adviser:**

Prof. Deborah Mowshowitz, 744D Mudd; 212-854-4497;  
dbm2@columbia.edu

**Biochemistry Advisers:**

*Biology:* Prof. Brent Stockwell, 1208 Northwest Corner Building; 212-854-2948; stockwell@biology.columbia.edu  
*Chemistry:* Prof. Virginia Cornish, 1209 Northwest Corner Building; 212-854-5209; vc114@columbia.edu

**Biophysics Adviser:** Prof. Julio Fernandez, 808 Northwest Corner Building; jf2120@columbia.edu

**Neuroscience and Behavior Advisers:**

*Biology:* Prof. Jian Yang, 917A Fairchild; 212-854-6161;  
jy160@columbia.edu  
or Prof. Deborah Mowshowitz, 744D Mudd; 212-854-4497;  
dbm2@columbia.edu  
*Psychology:* Prof. Frances Champagne, 315 Schermerhorn;  
212-854-2589; fchampag@psych.columbia.edu  
or Prof. James Curley, 317 Schermerhorn; 212-854-7033;  
jc3181@columbia.edu

• **On-Line Resources:**

- *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/>
- *FAQs for prospective traditional students:* <http://www.columbia.edu/cu/biology/ug/advice/faqs/firstyr.html>
- *FAQs for nontraditional students:* <http://www.columbia.edu/cu/biology/ug/advice/faqs/gs.html>
- 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 websites provided above.

For the first term of their introductory biology sequence, students may take either BIOL C2005 Introductory Biology I: Biochemistry, Genetics & Molecular Biology, which has a prerequisite of chemistry, or EEEB W2001 Environmental Biology I: Elements to Organisms, which does not require chemistry. EEEB W2001 Environmental Biology I: Elements to Organisms may be taken in the first year.

BIOL C2005 Introductory Biology I: Biochemistry, Genetics & Molecular Biology should be taken later, after general chemistry. For more details, see *Introductory Courses under Undergraduate Requirements*. All students interested in biology are encouraged to take BIOL C2908 First-Year Seminar in Modern Biology in the fall semester of their first year.

Premedical students should consult their advising dean or the pre-professional office for relevant details of medical school requirements. Students interested in graduate school should consult the Bio Career adviser, Dr. Chloe Bulinski.

Nonscience majors who wish to take a biology course to fulfill the science requirement are encouraged to take BIOL W1015 Molecular Biology and Evolution for Nonscientists if offered and/or BIOL W1130 Genes and Development. They may also take, with the instructor's permission, BIOL W3208 Introduction to Evolutionary Biology, or EEEB W2001 Environmental Biology I: Elements to Organisms.

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://systemsbiology.columbia.edu/courses>.

## 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 Introductory Biology I: Biochemistry, Genetics & Molecular Biology and BIOL C2006 Introductory Biology II: Cell Biology, Development & Physiology, but are not required to do so. For details, see <http://www.columbia.edu/cu/biology/ug/faqs.html> and *Introductory Courses under Undergraduate Requirements*.



## TRANSFER CREDIT ADVISING

Current and prospective biology majors and concentrators whose last names begin with A-H should consult with Prof. Kalderon. Students whose last names begin with I-P should consult with Prof. Heicklen. Students whose last names begin with Q-Z should consult with Prof. Miller. Current and prospective biochemistry majors should consult Prof. Stockwell for biology course advising and Prof. Cornish for chemistry course advising. Current and prospective biophysics majors should consult Prof. Fernandez. 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/>.

Current and prospective biology majors and concentrators whose last names begin with A-L should consult with Prof. Mowshowitz. Students whose last names begin with M-Z should consult with Prof. Tzagoloff. Current and prospective biochemistry majors should consult Prof. Tzagoloff for biology course advising and Prof. Cornish for chemistry course advising. Current and prospective biophysics majors should consult Prof. Fernandez. 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/>.

### Neuroscience and Behavior Advisers:

*Biology:* Prof. Jian Yang, 917A Fairchild; 854-6161;

[jy160@columbia.edu](mailto:jy160@columbia.edu)

or Prof. Deborah Mowshowitz, 744D Mudd; 854-4497;

[dbm2@columbia.edu](mailto:dbm2@columbia.edu)

*Psychology:* Prof. Frances Champagne, 315 Schermerhorn;

854-2589; [fchampag@psych.columbia.edu](mailto:fchampag@psych.columbia.edu)

or Prof. James Curley, 317 Schermerhorn; 854-7033;

[jc3181@columbia.edu](mailto:jc3181@columbia.edu)

## 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 and how to apply, please visit the SURF (<http://www.columbia.edu/cu/biology/ug/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 the Amgen Scholarship Program: <http://www.columbia.edu/cu/biology/ug/amgen/>. 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 departmental website at <http://www.columbia.edu/cu/biology/pages/undergrad/cur/honors/>.

## FACULTY PROFESSORS

- Walter J. Bock
- J. Chloë Bulinski
- Martin Chalfie
- Lawrence A. Chasin
- Julio M. Fernandez
- Stuart Firestein
- Joachim Frank  
Tulle Hazelrigg
- John Hunt
- Daniel Kalderon
- Darcy B. Kelley
- Ann McDermott (Chemistry)
- James L. Manley
- Robert E. Pollack
- Molly Przeworski
- Carol L. Prives
- Ron Prywes
- Michael P. Sheetz
- Liang Tong
- Alexander A. Tzagoloff  
Jian Yang
- Rafael Yuste

## ASSOCIATE PROFESSORS

- Harmen Bussemaker
- Songtao Jia
- Elizabeth Miller
- Dana Pe'er

- Guy Sella
- Ozgur Sahin
- Brent Stockwell

## ASSISTANT PROFESSOR

- Lars Dietrich

## LECTURERS

- Claire Elise Hazen
- Alice Hecklen
- Lili Yamasaki

## ADJUNCT FACULTY

- Ava Brent-Jamali
- Nataliya Galifianakis
- John Loike
- Jozsef Meszaros
- Deborah B. Mowshowitz
- Solomon Mowshowitz
- David Newman
- Vincent R. Racaniello

## REQUIREMENTS

### GUIDELINES FOR ALL BIOLOGICAL SCIENCES MAJORS, CONCENTRATORS, AND INTERDEPARTMENTAL MAJORS

Returning students should check the departmental website for any last-minute changes and/or additional information. See especially Undergraduate updates and list of department courses. All major and concentration requirements are detailed on the website and links provided 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 [jaya@biology.columbia.edu](mailto:jaya@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. A course that was taken Pass/D/Fail 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.

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## MAJOR IN BIOLOGY

### 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-point 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).

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.

### Introductory Courses

The usual one-year introductory biology sequence is BIOL C2005 Introductory Biology I: Biochemistry, Genetics & Molecular Biology- BIOL C2006 Introductory Biology II: Cell Biology, Development & Physiology, taken in the sophomore year, or EEEB W2001 Environmental Biology I: Elements to Organisms- BIOL C2006 Introductory Biology II: Cell Biology, Development & Physiology, 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 Introductory Biology I: Biochemistry, Genetics & Molecular Biology- BIOL C2006

Introductory Biology II: Cell Biology, Development & Physiology in their first year; the permission of one of the instructors is required.

Premedical students usually take BIOL C2005 Introductory Biology I: Biochemistry, Genetics & Molecular Biology- BIOL C2006 Introductory Biology II: Cell Biology, Development & Physiology after a year of general chemistry; premedical students interested in the environmental sciences may take *EEEEB W2001 Environmental Biology I: Elements to Organisms* followed by BIOL C2006 Introductory Biology II: Cell Biology, Development & Physiology.

Students with advanced placement in biology are expected but not required to take EEEB W2001 Environmental Biology I: Elements to Organisms or BIOL C2005 Introductory Biology I: Biochemistry, Genetics & Molecular Biology as their initial biology course, because BIOL C2005 Introductory Biology I: Biochemistry, Genetics & Molecular Biology- BIOL C2006 Introductory Biology II: Cell Biology, Development & Physiology is taught at a level of detail and depth not found in most advanced placement courses.

Students who wish to skip BIOL C2005 Introductory Biology I: Biochemistry, Genetics & Molecular Biology 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:

BIOL W3031 Genetics

BIOL W3041 Cell Biology

BIOL W3022 Developmental Biology

BIOC C3501 Biochemistry, I: Structure and Metabolism

BIOC C3512 Molecular Biology

## Laboratory Courses

A laboratory experience in biology is required. It may be fulfilled by completing any one of the following options:

### Option 1:

Select one of the following 5-point laboratory course:

BIOL W3050 Project Laboratory In Protein Biochemistry

BIOL C3052 Project Laboratory in Molecular Genetics

BIOL W3058 Project Laboratory in Microbiology

### Option 2:

BIOL W2501 Contemporary Biology Laboratory

An additional 3-point lab such as BIOL W3040 or a Barnard lab

### Option 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

### Option 4:

Completion of all the requirements for one session of the Summer Undergraduate Research Fellowship (SURF). An additional semester of BIOL W3500 in the same research lab is recommended but not required. 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 Independent Biological Research.

## Upper-Level Elective Courses

Two additional courses, carrying at least three points each, from any of the 3000- or 4000- level lecture courses. BIOL W3500 Independent Biological Research 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:

### Option 1:

CHEM C1403 General Chemistry I (Lecture) and General Chemistry II (Lecture)  
- CHEM W1404

CHEM W1500 General Chemistry Laboratory

CHEM C3443 Organic Chemistry I (Lecture) and Organic Chemistry II (Lecture)  
- CHEM W3444

CHEM W3543 Organic Chemistry Laboratory

### Option 2:

For students who qualify for intensive chemistry

CHEM C1604 Second Semester General Chemistry (Intensive) and Intensive General Chemistry Laboratory  
- CHEM W2507

CHEM C3443 Organic Chemistry I (Lecture) and Organic Chemistry II (Lecture)  
- CHEM W3444

CHEM Organic Chemistry Laboratory  
W3543

**Option 3:**

For students who qualify for first year organic chemistry

CHEM Intensive General Chemistry Laboratory  
W2507

CHEM Intensive Organic Chemistry I (Lecture)  
C3045 and Intensive Organic Chemistry II  
(Lecture)  
- CHEM  
W3046

CHEM Organic Chemistry Laboratory  
W3543

**Physics**

Students must take two terms of physics including the accompanying labs. The usual choices are PHYS V1201- PHYS V1202 General Physics and PHYS W1291- PHYS W1292 General Physics Laboratory. 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 Mathematics A is sufficient. However, students with AP credit are encouraged to take additional courses in mathematics or statistics at Columbia.

For more details on the biology major requirements, visit <http://www.columbia.edu/cu/biology/pages/undergrad/cur/majors/biomajor.html>.

**MAJOR IN BIOCHEMISTRY**

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.

For more details, see the *Chemistry* section in this Bulletin or visit <http://www.columbia.edu/cu/biology/pages/undergrad/cur/majors/biochem.html>.

For more details, see the *Chemistry* section in this Bulletin or visit <http://www.columbia.edu/cu/biology/pages/undergrad/cur/majors/biochem.html>.

**MAJOR IN BIOPHYSICS**

The requirements for the biophysics major are as follows:

One year introductory biology:

BIOL C2005 Introductory Biology I: Biochemistry,  
- BIOL C2006 Genetics & Molecular Biology  
and Introductory Biology II: Cell Biology,  
Development & Physiology

Select at least one of the following laboratory course:

BIOL Project Laboratory In Protein Biochemistry  
W3050

BIOL Project Laboratory in Molecular Genetics  
C3052

BIOL Project Laboratory in Microbiology  
W3058

BIOL Independent Biological Research  
W3500

One course in biochemistry or molecular biology:

BIOC C3501 Biochemistry, I: Structure and Metabolism  
or BIOC Molecular Biology  
C3512

Select one of the following options:

Option 1 - Genetics:

BIOL Genetics  
W3031

Option 2 - Neurobiology:

BIOL Neurobiology I: Cellular and Molecular  
W3004 Neurobiology  
or BIOL Neurobiology II: Development & Systems  
W3005

Option 3 - Developmental Biology:

BIOL Developmental Biology  
W3022

Select one of the following sequences to be completed at the end of sophomore year:

PHYS Introduction To Mechanics and  
C1401 Thermodynamics  
- PHYS and Introduction To Electricity,  
C1402 Magnetism, and Optics  
- PHYS and Introduction to Classical and  
C1403 Quantum Waves  
- PHYS and Introduction to Experimental Physics  
C1494

PHYS Physics, I: Mechanics and Relativity  
C1601 and Physics, II: Thermodynamics,  
- PHYS Electricity, and Magnetism  
C1602 and Physics, III: Classical and Quantum  
- PHYS Waves  
C2601 and Experiments in Classical and Modern  
- PHYS Physics  
C2699

PHYS Accelerated Physics, I and II  
 C2801 and Accelerated Physics, I and II  
 - PHYS and Intermediate Laboratory Work  
 C2802  
 - PHYS  
 W3081

Any two physics courses at 3000-level or above, chosen in consultation with the adviser

Calculus through MATH V1202 or MATH V1208, and MATH V3027

Chemistry through organic including labs; see biology major for options

One additional course at the 3000- or 4000-level in either physics or biology

For more details, see the *Physics* section in this Bulletin or visit <http://www.columbia.edu/cu/biology/pages/undergrad/cur/majors/biophysics.html>.

For more details, see the *Physics* section in this Bulletin or visit <http://www.columbia.edu/cu/biology/pages/undergrad/cur/majors/biophysics.html>.

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## MAJOR IN NEUROSCIENCE AND BEHAVIOR

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.

For more details, see the *Psychology* section in this Bulletin or visit <http://www.columbia.edu/cu/biology/pages/undergrad/cur/majors/neuro.html>.

For more details, see the *Psychology* section in this Bulletin or visit <http://www.columbia.edu/cu/biology/pages/undergrad/cur/majors/neuro.html>.

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## MAJOR IN ENVIRONMENTAL BIOLOGY

For a description of the environmental biology major, see the *Ecology, Evolution, and Environmental Biology* section in this Bulletin.

For a description of the environmental biology major, see the *Ecology, Evolution, and Environmental Biology* section in this Bulletin.

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## CONCENTRATION IN BIOLOGY

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, chemistry and mathematics are required as detailed below.

BIOL W1015 Molecular Biology and Evolution for Nonscientists, BIOL W1130 Genes and Development or BIOL W3500 Independent Biological Research **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 Contemporary Biology Laboratory may **not** both be counted toward the 22-point total. See the biology major requirements for additional information.

The requirements for the concentration in biology are as follows:

BIOL C2005 Introductory Biology I: Biochemistry, Genetics & Molecular Biology  
 or EEEB Environmental Biology I: Elements to  
 W2001 Organisms

BIOL C2006 Introductory Biology II: Cell Biology, Development & Physiology

Select at least one of the following core courses:

BIOL Genetics  
 W3031

BIOL Cell Biology  
 W3041

BIOL Developmental Biology  
 W3022

BIOC Biochemistry, I: Structure and Metabolism  
 C3501

BIOC Molecular Biology  
 C3512

Select a 5-point laboratory course:

BIOL Project Laboratory In Protein Biochemistry  
 W3050

BIOL Project Laboratory in Molecular Genetics  
 C3052

BIOL Contemporary Biology Laboratory (plus a  
 W2501 second course including laboratory work  
 [usually BIOL W3040])

Additional biology or biochemistry courses to complete a total of 22 points. Only one of these courses may be for 1-2 points. All the rest must be at least 3 points.

Chemistry through organic including labs; see biology major for options

One year of physics, including laboratory; see biology major for options

One year of college-level mathematics (ordinarily this should be calculus); see biology major for options



For more details, visit <http://www.columbia.edu/cu/biology/pages/undergrad/cur/majors/biocon.html> .

# BUSINESS

**Program Manager:** Saphia Najafee, 104 Uris; 212-854-0140; BusinessManagement@gsb.columbia.edu

<http://www8.gsb.columbia.edu/programs-admissions/academics/versatile-programs/special-concentration-in-business-management>

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 education at Columbia. 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 by participating in co-curricular activities, such as Business School faculty lecture series, industry panels, informal mentoring/networking activities with MBA students and alumni, in addition to research opportunities 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, providing students with the opportunity to develop key leadership skills, an entrepreneurial mindset, and the ability to innovate.

## APPLICATION REQUIREMENTS

To apply for the special concentration in business management, students must meet these three requirements:

1. Sophomore or junior standing
2. Have a cumulative GPA of 3.4 or higher
3. Have received a B+ or better in at least one, but preferably two, of the following three prerequisite courses, i.e. in statistics, economics, and psychology. Students who completed only one prerequisite at the time of application must be currently enrolled in at least one other; acceptance is conditional on achieving a grade of B+ or higher in the second course.

### Statistics Prerequisite

Select one of the following:

STAT W1001	Introduction to Statistical Reasoning
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STAT W1111	Introduction to Statistics (without calculus)
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STAT W1211	Introduction to Statistics (with calculus)
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PSYC W1610	Introductory Statistics for Behavioral Scientists
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SOCI W3020	Social Statistics
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### Economics Prerequisite

ECON W1105	Principles of Economics
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### Psychology/Sociology Prerequisite

Select one of the following:

PSYC W1001	The Science of Psychology
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PSYC W1010	Mind, Brain and Behavior
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SOCI W1000	The Social World
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## Application Components

1. Application form
2. Current class schedule, including a brief description of how all concentration requirements will be completed
3. Official transcript
4. Resume

## Benefits for Admitted Students

While students may complete the special concentration requirements without applying to the program, the following benefits are available to students admitted through the application process:

1. Guaranteed enrollment in popular undergraduate business courses (must reserve in advance through program manager)
2. Access to special guest speaker presentations at the Business School, including business leader or faculty presentations exclusively for admitted students
3. Formal and informal networking opportunities with Business School students, faculty, and alumni

## FACULTY

### AFFILIATED FACULTY

- Andrew Hertzberg (<http://www0.gsb.columbia.edu/faculty/ahertzberg>)
- Roger Mesznik
- Ernesto Reuben (<http://www4.gsb.columbia.edu/cbs-directory/detail/731815/Ernesto+Reuben>)
- Aaron Wallen (<http://www4.gsb.columbia.edu/cbs-directory/detail/5845593/Aaron+Wallen>)
- Keith Wilcox (<http://www4.gsb.columbia.edu/cbs-directory/detail/7520565/Keith%20Wilcox>)
- Emily Breza (<http://www0.gsb.columbia.edu/faculty/ebreza>)

- Stephan Meier (<http://www4.gsb.columbia.edu/cbs-directory/detail/138231/Stephan+Meier>)
- Leonard Lee (<http://www4.gsb.columbia.edu/cbs-directory/detail/5845231/Leonard+Lee>)
- Ran Kivetz (<http://www4.gsb.columbia.edu/cbs-directory/detail/494949/Kivetz>)
- Bruce Kogut (<http://www4.gsb.columbia.edu/cbs-directory/detail/6334308/Bruce+Kogut>)

## REQUIREMENTS

### GUIDELINES FOR ALL BUSINESS MANAGEMENT SPECIAL CONCENTRATORS

The business management special concentration is not a stand-alone concentration: it is intended to complement the disciplinary specialization and methodological training inherent in a major. In addition to the special concentration requirements, students must complete a major or a full concentration.

Students who matriculated at Columbia in Fall 2012 and beyond must earn a minimum GPA of 3.0 in prerequisite, core, and elective courses. Students who matriculated before Fall 2012 must either adhere to above requirement or previous requirement of B+ or better in at least two of the prerequisites and minimum GPA of 3.0 in core and elective classes.

Students who do not meet course prerequisites or who do not receive a passing grade do not receive credit for that course towards the special concentration. All courses must be taken for a letter grade. Only prerequisites may be double-counted for other majors or concentrations. The core and elective courses **cannot** be double counted.

For information about this special concentration, including the application process, visit <http://www8.gsb.columbia.edu/programs-admissions/academics/versatile-programs/special-concentration-in-business-management>.

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## SPECIAL CONCENTRATION IN BUSINESS MANAGEMENT

Please read *Guidelines for all Business Management Special Concentrators* above.

The requirements for the special concentration in business management are as follows:

### Prerequisites

Select one of the following statistics courses:

STAT W1001 Introduction to Statistical Reasoning

STAT W1111 Introduction to Statistics (without calculus)

STAT W1211 Introduction to Statistics (with calculus)

PSYC W1610 Introductory Statistics for Behavioral Scientists

SOCI W3020 Social Statistics

Select the following economics course:

ECON W1105 Principles of Economics

Select one of the following psychology/sociology courses:

PSYC W1001 The Science of Psychology

PSYC W1010 Mind, Brain and Behavior

SOCI W1000 The Social World

### Core

Select one of the following Financial Core courses:

BUSI W3013 Financial Accounting

ECON W4280 Corporate Finance

Select two of the following Managerial Core courses:

BUSI W3021 Marketing Management

BUSI W3701 Strategy Formulation

BUSI W3703 Leadership in Organizations

### Electives

Select two of the following:

ECON V3025 Financial Economics

ECON V3265 The Economics of Money and Banking

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

SOCI W3670 Culture, Markets, and Consumption

SOCI W3675 Organizing Innovation

SOCI G4032	Sociology of Labor Markets
URBS V3550	Community Building and Economic Development
ECON W4505	International Monetary Theory and Policy
POLS V3615	Globalization and International Politics
PSYC BC1136	Social Psychology
PSYC BC1138	Social Psychology
PSYC BC2151	Organizational Psychology

NOTE: Students may not receive credit for two or more of PSYC BC1136 Social Psychology, *PSYC BC1138 Social Psychology*, and PSYC W2630 Social Psychology.

# CHEMISTRY

**Undergraduate Office:** 340 Havemeyer; 212-854-2163

**Departmental Office:** 344 Havemeyer; 212-854-2202  
<http://www.columbia.edu/cu/chemistry/>

**Director of Undergraduate Studies:** Prof. Laura Kaufman, 628 Havemeyer; 212-854-9025;  
[kaufman@chem.columbia.edu](mailto:kaufman@chem.columbia.edu)

**Program Manager for Undergraduate Studies:** Dr. Vesna Gasperov, 211A Havemeyer; 212-854-2017;  
[vg2231@columbia.edu](mailto:vg2231@columbia.edu)

## Biochemistry Advisers:

*Biology:* Prof. Brent Stockwell, 1208 Northwest Corner Building; 212-854-2919; [stockwell@biology.columbia.edu](mailto:stockwell@biology.columbia.edu)

*Chemistry:* Prof. Virginia Cornish, Northwest Corner Building; 212-854-5209; [vc114@columbia.edu](mailto:vc114@columbia.edu)

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, smell, and touch, and the microscopic world 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 chemistry department majors are 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. 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 Second Semester General Chemistry (Intensive) are granted 3 points of credit; students who are placed into CHEM C3045-CHEM W3046 Intensive Organic Chemistry II (Lecture) 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

The results of the placement exam are used to advise students which track to pursue. The Department of Chemistry offers three different tracks. Students who wish to take Track 2 or 3 classes must take the placement exam. Students who wish to pursue Track 1 classes do not need to take the placement exam.

## 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 intensive 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 *Requirements* section.

## ADDITIONAL COURSES

First-year students may also elect to take CHEM W2408. This seminar focuses on topics in modern chemistry, and is offered to all qualified students.

Biochemistry (BIOC C3501, BIOC C3512) is recommended for students interested in the biomedical sciences.

Physical chemistry (CHEM C3079-CHEM W3080), a one-year program, requires prior preparation in mathematics and physics. The accompanying laboratory is CHEM C3085-CHEM W3086.

Also offered are a senior seminar (CHEM C3920); advanced courses in biochemistry, inorganic, organic, and physical chemistry; and an introduction to research (CHEM 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.

### Track 1

#### First Year

CHEM W1403	General Chemistry I (Lecture)
CHEM W1500	General Chemistry Laboratory
CHEM W2408	First-Year Seminar in Chemical Research
CHEM W1404	General Chemistry II (Lecture)

Calculus and physics as required.

#### Second Year

CHEM W3444	Organic Chemistry II (Lecture)
CHEM W3546	Advanced Organic Chemistry Laboratory
Calculus and physics as required.	
CHEM W3443	Organic Chemistry I (Lecture)
CHEM W3543	Organic Chemistry Laboratory

### Third Year

BIOC C3501 - BIOC C3512 (for biochemistry majors)	Biochemistry, I: Structure and Metabolism
CHEM C3098	Supervised Independent Research
CHEM C3079	Physical Chemistry I
CHEM W3080	Physical Chemistry II

### Fourth Year

CHEM C3085	Physical and Analytical Chemistry Laboratory I
CHEM W3086	Physical and Analytical Chemistry Laboratory II
CHEM G4071	Inorganic Chemistry
CHEM C3098	Supervised Independent Research
CHEM C3920	Senior Seminar in Chemical Research
Advanced courses (4000-level or higher)	

### Track 2

#### First Year

CHEM C1604	Second Semester General Chemistry (Intensive)
CHEM W2507 or W1500	Intensive General Chemistry Laboratory
CHEM W2408	First-Year Seminar in Chemical Research
Calculus and physics as required.	

#### Second Year

CHEM W3443	Organic Chemistry I (Lecture)
CHEM W3444	Organic Chemistry II (Lecture)
CHEM W3543	Organic Chemistry Laboratory
CHEM W3546	Advanced Organic Chemistry Laboratory

Calculus and physics as required.

### Third Year

CHEM C3079 Physical Chemistry I

CHEM W3080 Physical Chemistry II

CHEM C3098 Supervised Independent Research

BIOC C3501 Biochemistry,  
- BIOC C3512 I: Structure and  
(for biochemistry Metabolism  
majors)

### Fourth Year

CHEM C3085 Physical and Analytical Chemistry Laboratory I

CHEM W3086 Physical and Analytical Chemistry Laboratory II

CHEM G4071 Inorganic Chemistry

CHEM C3098 Supervised Independent Research

CHEM C3920 Senior Seminar in Chemical Research

Advanced courses (4000- level or higher)

## Track 3

### First Year

CHEM C3045 Intensive Organic Chemistry I (Lecture)

Calculus and physics as required.

CHEM W3046 Intensive Organic Chemistry II (Lecture)

CHEM W2408 First-Year Seminar in Chemical Research

CHEM W2507 Intensive General Chemistry Laboratory

### Second Year

CHEM C3079 Physical Chemistry I

CHEM W3080 Physical Chemistry II

CHEM W3545 Intensive Organic Chemistry Laboratory

CHEM W3546 Advanced Organic Chemistry Laboratory

Calculus and physics as required.

### Third Year

CHEM C3085 Physical and Analytical Chemistry Laboratory I

CHEM W3086 Physical and Analytical Chemistry Laboratory II

CHEM C3098 Supervised Independent Research

CHEM G4071 Inorganic Chemistry

BIOC C3501 Biochemistry,  
- BIOC C3512 I: Structure and  
(for biochemistry Metabolism  
majors)

### Fourth Year

CHEM C3098 Supervised Independent Research

CHEM C3920 Senior Seminar in Chemical Research

Advanced courses (4000-level or higher)

## FACULTY 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

- James J. Valentini
- Xiaoyang Zhu

## ASSOCIATE PROFESSORS

- Angelo Cacciuto
- Ruben Gonzalez
- Laura Kaufman
- Tristan Lambert
- Dalibor Sames

## ASSISTANT PROFESSORS

- Luis Campos
- Wei Min
- Jonathan Owen
- Xavier Roy

## LECTURERS

- Luis Avila
- Robert Beer
- John Decatur
- Charles E. Doubleday
- Fay Ng
- Ruben Savizky

## REQUIREMENTS

### GUIDELINES 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 or the Undergraduate Program Manager 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 who wish to start with Track 2 or 3 courses 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:

#### Track 1

CHEM W1403	General Chemistry I (Lecture)
CHEM W1404	General Chemistry II (Lecture)
CHEM W1500	General Chemistry Laboratory

CHEM W3443	Organic Chemistry I (Lecture)
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CHEM W3444	Organic Chemistry II (Lecture)
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CHEM W3543	Organic Chemistry Laboratory
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#### Track 2

CHEM C1604	Second Semester General Chemistry (Intensive)
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CHEM W1500	General Chemistry Laboratory
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or CHEM W2507	Intensive General Chemistry Laboratory
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CHEM W3443	Organic Chemistry I (Lecture)
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CHEM W3444	Organic Chemistry II (Lecture)
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CHEM W3543	Organic Chemistry Laboratory
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#### Track 3

CHEM C3045	Intensive Organic Chemistry I (Lecture)
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CHEM W3046	Intensive Organic Chemistry II (Lecture)
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CHEM W2507	Intensive General Chemistry Laboratory
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CHEM W3545	Intensive Organic Chemistry Laboratory
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### Physics Sequences

Unless otherwise specified below, all students must complete one of the following sequences:

#### Sequence A

For students with limited background in high school physics:

PHYS C1401	Introduction To Mechanics and Thermodynamics
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PHYS C1402	Introduction To Electricity, Magnetism, and Optics
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PHYS C1403	Introduction to Classical and Quantum Waves
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Select one of the following laboratory courses:

PHYS C1493	Introduction to Experimental Physics
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or PHYS C1494	Introduction to Experimental Physics
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PHYS C2699	Experiments in Classical and Modern Physics
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PHYS Intermediate Laboratory Work  
W3081

### Sequence B

PHYS C1601 Physics, I: Mechanics and Relativity  
PHYS C1602 Physics, II: Thermodynamics, Electricity,  
and Magnetism  
PHYS C2601 Physics, III: Classical and Quantum Waves

Select one of the following laboratory courses:

PHYS C2699 Experiments in Classical and Modern  
Physics

or PHYS Intermediate Laboratory Work  
W3081

### Sequence C

For students with advanced preparation in physics and  
mathematics:

PHYS C2801 Accelerated Physics, I and II  
- PHYS and Accelerated Physics, I and II  
C2802

Select one of the following laboratory courses:

PHYS C2699 Experiments in Classical and Modern  
Physics

or PHYS Intermediate Laboratory Work  
W3081

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## MAJOR IN CHEMISTRY

Select one of the tracks outlined above in *Guidelines for all  
Chemistry Majors, Concentrators, and Interdepartmental Majors*  
and complete the following lectures and labs.

### Chemistry

Select one of the chemistry tracks outlined above.

CHEM First-Year Seminar in Chemical Research  
W2408 (Recommended NOT required)

CHEM Advanced Organic Chemistry Laboratory  
W3546

CHEM Inorganic Chemistry  
G4071

CHEM Physical Chemistry I  
C3079

CHEM Physical Chemistry II  
W3080

CHEM Physical and Analytical Chemistry  
Laboratory I  
C3085

CHEM Physical and Analytical Chemistry  
Laboratory II  
W3086

CHEM Senior Seminar in Chemical Research  
C3920

Select one course from the following:

CHEM Supervised Independent Research (one  
C3098 term taken for at least 4 points)

OR Chemistry courses numbered CHEM G4000 or  
above

### Physics

Select one of the physics sequences outlined above in the  
Guidelines section

### Mathematics

Select one of the following sequences:

Four semesters of calculus:

MATH Calculus I

V1101 and Calculus II

- MATH and Calculus III

V1102 and Calculus IV

- MATH

V1201

- MATH

V1202

Two semesters of honors mathematics:

MATH Honors Mathematics A

V1207 and Honors Mathematics B

- MATH

V1208

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## MAJOR IN BIOCHEMISTRY

Select one of the tracks outlined above in *Guidelines for all  
Chemistry Majors, Concentrators, and Interdepartmental Majors*  
and complete the following lectures and labs.

### Chemistry

Select one of the chemistry tracks outlined above.

CHEM Physical Chemistry I  
C3079

CHEM Physical Chemistry II (OR)  
W3080

BIOL W4082 Theoretical Foundations and Applications  
of Biophysical Methods

CHEM First-Year Seminar in Chemical Research  
W2408 (Recommended NOT required)

### Biology

BIOL C2005 Introductory Biology I: Biochemistry,  
Genetics & Molecular Biology

BIOL C2006 Introductory Biology II: Cell Biology,  
Development & Physiology

Select one of the following laboratory courses:

BIOL Project Laboratory In Protein Biochemistry  
W3050

BIOL Project Laboratory in Molecular Genetics  
C3052

BIOL Independent Biological Research  
W3500

BIOL C2908 First-Year Seminar in Modern Biology  
(recommended but not required)

BIOC C3501 Biochemistry, I: Structure and Metabolism

BIOC C3512 Molecular Biology

### Physics

Select one of the following physics sequences:

Sequence A:

PHYS General Physics  
V1201 and General Physics  
- PHYS  
V1202

Sequence B:

PHYS Introduction To Mechanics and  
C1401 Thermodynamics  
- PHYS and Introduction To Electricity,  
C1402 Magnetism, and Optics  
- PHYS and Introduction to Classical and  
C1403 Quantum Waves (PHYS C1403 is  
recommended but not required)

Sequence C:

PHYS Physics, I: Mechanics and Relativity  
C1601 and Physics, II: Thermodynamics,  
- PHYS Electricity, and Magnetism  
C1602 and Physics, III: Classical and Quantum  
- PHYS Waves (PHYS C2601 is recommended but  
C2601 not required)

Sequence D:

PHYS Accelerated Physics, I and II  
C2801 and Accelerated Physics, I and II  
- PHYS  
C2802

### Mathematics

Select one of the following sequences:

Two semesters of calculus:

MATH Calculus I  
V1101 and Calculus II  
- MATH and Calculus III  
V1102 and Calculus IV  
- MATH  
V1201  
- MATH  
V1202

Two semesters of honors mathematics:

MATH Honors Mathematics A  
V1207 and Honors Mathematics B  
- MATH  
V1208

AP credit and one term of calculus (Calculus II or  
higher)

### Additional Courses

Select one of the following additional laboratory courses:

CHEM Physical and Analytical Chemistry  
C3085 Laboratory I

CHEM Physical and Analytical Chemistry  
W3086 Laboratory II

CHEM Advanced Organic Chemistry Laboratory  
W3546

CHEM Supervised Independent Research (one  
C3098 term taken for at least 4 points)

BIOL Independent Biological Research  
W3500

BIOL Project Laboratory In Protein Biochemistry  
W3050

BIOL Project Laboratory in Molecular Genetics  
C3052

BIOL Lab in Molecular Biology  
W3040 and Contemporary Biology Laboratory  
- BIOL  
W2501

Select any three courses from the following:

CHEM Inorganic Chemistry  
G4071

CHEM Advanced Organic Chemistry  
G4147

CHEM Biorganic Topics  
G4172

MATH Ordinary Differential Equations  
V3027  
or MATH  
E1210

One additional semester of calculus

One additional semester of honors math:

MATH Honors Mathematics A  
V1207

or MATH Honors Mathematics B  
V1208

Any biology course at the 3000/4000 level for 3 or more  
points. The following are recommended:

BIOL Neurobiology I: Cellular and Molecular  
W3004 Neurobiology

or BIOL Neurobiology II: Development & Systems  
W3005

BIOL The Cellular Physiology of Disease  
W3008

BIOL Biotechnology  
W3034

BIOL Cell Biology  
W3041

BIOL Developmental Biology  
W3022

BIOL Cellular and Molecular Immunology  
W3073

BIOL Molecular Biology of Disease  
W4065



BIOL      Drugs and Disease  
W4300

MATH      Calculus IV  
V1202      and Ordinary Differential Equations  
- MATH  
V3027

## MAJOR IN CHEMICAL PHYSICS

Select one of the tracks outlined above in *Guidelines for all Chemistry Majors, Concentrators, and Interdepartmental Majors* and complete the following lectures and labs.

### Chemistry

Select one of the chemistry tracks outlined above.

CHEM      Physical Chemistry I  
C3079

CHEM      Physical Chemistry II  
W3080

CHEM      Physical and Analytical Chemistry  
C3085      Laboratory I

CHEM      Physical and Analytical Chemistry  
W3086      Laboratory II

CHEM      Quantum Chemistry  
G4221

or PHYS      Quantum Mechanics, I and II  
G4021

CHEM      Senior Seminar in Chemical Research  
C3920

### Physics

Select one of the physics sequences outlined above in *Guidelines for all Chemistry Majors, Concentrators and Interdepartmental Majors* and complete the following lectures:

PHYS W3003 Mechanics

PHYS W3007 Electricity and Magnetism

PHYS W3008 Electromagnetic Waves and Optics

### Mathematics

Select one of the following sequences:

Four semesters of calculus:

MATH      Calculus I  
V1101      and Calculus II  
- MATH      and Calculus III  
V1102      and Calculus IV  
- MATH  
V1201  
- MATH  
V1202

Two semesters of honors mathematics:

MATH      Honors Mathematics A  
V1207      and Honors Mathematics B  
- MATH      and Ordinary Differential Equations  
V1208  
- MATH  
V3027

Two semesters of advanced calculus:

## MAJOR IN ENVIRONMENTAL CHEMISTRY

Select one of the tracks outlined above in *Guidelines for all Chemistry Majors, Concentrators, and Interdepartmental Majors* and complete the following lectures and labs.

### Chemistry

Select one of the chemistry tracks outlined above.

CHEM      First-Year Seminar in Chemical Research  
W2408      (Recommended not required)

CHEM      Inorganic Chemistry  
G4071

CHEM      Physical Chemistry I  
C3079

Select one of the following laboratory courses:

CHEM      Supervised Independent Research (one  
C3098      term taken for at least 4 points)

CHEM      Physical and Analytical Chemistry  
C3085      Laboratory I

CHEM      Senior Seminar in Chemical Research  
C3920

### Earth and Environmental Science

EESC V2100 Earth's Environmental Systems: Climate

EESC V2200 Earth's Environmental Systems: Solid  
Earth

EESC V2300 Earth's Environmental Systems: Life  
Systems

EESC      Environmental Measurements  
BC3016

### Physics

Select one of the physics sequences outlined above without the lab courses.

### Mathematics and Statistics

Two semesters of calculus:

MATH      Calculus I  
V1101

MATH      Calculus II  
V1102

MATH      Calculus III  
V1201

MATH      Calculus IV  
V1202

One semester of statistics:

STAT W1211 Introduction to Statistics (with calculus)

or STAT      Introduction to Probability  
W3105

**Additional Courses**

Select any two of the following:

CHEM W3080	Physical Chemistry II
CHEM G4103	Organometallic Chemistry
CHEM G4147	Advanced Organic Chemistry
BIOC G4170	Biophysical Chemistry
EESC W4009	Chemical Geology
EESC W4835	Wetlands and Climate Change
EESC W4925	Principles of Physical Oceanography
EESC W4926	Principles of Chemical Oceanography
EESC W4885	The Chemistry of Continental Waters
EAAE E4001	Industrial ecology of earth resources
EAAE E4003	Introduction to aquatic chemistry
EAAE E4950	Environmental biochemical processes

One additional semester of calculus

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## CONCENTRATION IN CHEMISTRY

No more than four points of CHEM C3098 Supervised Independent Research may be counted toward the concentration.

Select one of the three chemistry tracks listed below.

PHYS V1201 - PHYS V1202	General Physics and General Physics
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Two semesters of calculus

**Chemistry Tracks****Track 1**

CHEM W1403	General Chemistry I (Lecture)
CHEM W1404	General Chemistry II (Lecture)
CHEM W1500	General Chemistry Laboratory

Select 22 points of chemistry at the 3000-level or higher

**Track 2**

CHEM C1604	Second Semester General Chemistry (Intensive)
CHEM W1500 or CHEM W2507	General Chemistry Laboratory Intensive General Chemistry Laboratory

Select 22 points of chemistry at the 3000-level or higher

**Track 3**

CHEM C3045	Intensive Organic Chemistry I (Lecture)
CHEM W3046	Intensive Organic Chemistry II (Lecture)
CHEM W2507	Intensive General Chemistry Laboratory

Select 18 points of chemistry at the 3000-level or higher

# CLASSICS

**Departmental Office:** 617 Hamilton; 212-854-3902;  
classics@columbia.edu  
<http://www.columbia.edu/cu/classics/>

**Director of Undergraduate Studies (Classics):** Prof. Katharina Volk, 212-854-5683; kv2018@columbia.edu

**Director of Undergraduate Studies (Modern Greek Studies):** Prof. Maria Hadjipolycarpou, 212-854-6988; mh3505@columbia.edu

**Departmental Administrator:** Gerry Visco, 212-854-2726; gwv1@columbia.edu

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—such as paintings, sculptures, philosophical ideas—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. While all Columbia students get 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

archaeological 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 a comprehensive understanding of classical literature and culture, and the mastery of Greek and Latin on which such understanding depends. 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 Virgil 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:

### Greek

GREK V1101 Elementary Greek I  
- GREK and Elementary Greek II  
V1102

GREK V1201 Intermediate Greek I  
- GREK and Intermediate Greek II: Homer  
V1202

### Latin

LATN V1101 Elementary Latin I  
- LATN and Elementary Latin II  
V1102

LATN V1201 Intermediate Latin I  
- LATN and Intermediate Latin II  
V1202

With the permission of the director of undergraduate studies, GREK V1202 Intermediate Greek II: Homer may be taken before GREK V1201 Intermediate Greek I.

The intensive elementary courses GREK V1121 Intensive Elementary Greek and LATN V1121 Intensive Elementary Latin may be substituted for the two-term *V1101-V1102* sequence. The intensive intermediate courses GREK S1221 Intensive Intermediate Greek and LATN S1221 Intensive Intermediate Latin may be substituted for the two-term *V1201-V1202* sequence.

LATN V1201 Intermediate Latin I should be taken before LATN V1202 Intermediate Latin II.

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 Latin AP exam, which also satisfies the foreign language requirement, upon successful completion (with a grade of B or higher) of a Latin class at the *3000*-level or higher.

## MAJOR PROGRAM

The department offers a major in classics and a major track in classical studies. The major in classics involves the intensive study of both Greek and Latin, as well as their cultural matrix; the track 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 track 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 track. 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.

Students should contact the director of undergraduate studies with any questions about the classics majors and course offerings. The director of undergraduate studies can provide students with a worksheet to help in planning their progress toward major requirements.

## FACULTY PROFESSORS

- Kathy Eden
- Marco Fantuzzi
- Helene P. Foley (Barnard)
- Carmela V. Franklin
- Stathis Gourgouris
- Seth R. Schwartz
- Deborah T. Steiner (Chair)
- Karen Van Dyck
- Katharina Volk
- Gareth D. Williams
- Nancy Worman (Barnard)
- James E. G. Zetzel

## ASSOCIATE PROFESSORS

- Elizabeth Irwin
- Kristina Milnor (Barnard)
- Ellen Morris (Barnard)

## ASSISTANT PROFESSORS

- Marcus Folch
- Joseph Howley

## LECTURERS

- Maria Hadjipolycarpou
- Collomia Charles
- Elizabeth Scharffenberger

## REQUIREMENTS

### 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 the completion of 11 courses (a minimum of 34 points) and must include the following:

1. In a primary language:
  - Four courses at or above the *V1200*-level.
  - *Major Seminar V3996*
  - Two courses from the following four advanced options (*W4105*, *W4106*, *W4139*, *V3998*; any others may count toward the four upper level requirement)
2. In a secondary language:
  - Two courses at or above the *V1200*-level
3. Two ancient culture courses, including:
  - One course in the culture of the primary language
  - One course in any aspect of ancient history or culture (*HIST*, *AHIS*, *PHIL*, *CLLT*, *CLCV*). All substitutions must be approved by the director of undergraduate studies.

The classical languages follow a standard track of elementary (*1100*-level) and intermediate (*1200*-level) levels, followed by *3000*- and *4000*-level classes that may generally be taken in any order.

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.

Those planning to go on to graduate study in classics are urged to take both terms of *W4105-W4106* if possible, to write a senior research thesis, and to acquire a reading knowledge of German and preferably also of French. (Italian is also useful.)

To be eligible for departmental honors and prizes, students must take *V3998*.

## MAJOR TRACK IN CLASSICAL STUDIES

The major track in classical studies requires the completion of 11 courses (a minimum of 35 points) and must include the following:

1. Five courses, at or above the *V1102*-level, in either or both Latin and Greek.
2. *Major Seminar V3996*
3. Four classes in Ancient History, Art, Philosophy, Religion, Civilization. Note that certain courses may be 6 credits, e.g. ICCS's *City of Rome* course, may count as two courses towards this requirement). Students in doubt about a course's relevance should confirm it with the director of undergraduate studies as soon as possible.
4. *Senior Thesis V3998*, completed on a chosen aspect of Greek or Roman civilization under the direction of a faculty member (3 points)

Summer courses *1221/1221* are counted as four credits for the purposes of major requirements.

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## MAJOR IN ANCIENT STUDIES

Students interested in a major in ancient studies should see the *Ancient Studies* section in this Bulletin.

Students interested in a major in ancient studies should see the *Ancient Studies* section in this Bulletin.

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## CONCENTRATION IN CLASSICS

*The requirements for this program were modified on September 19, 2014. Students who declared this program before this date should contact the director of undergraduate studies for the department in order to confirm their correct course of study.*

The concentration in classics is designed for those who cannot fit the complete major into their undergraduate schedule, but still wish to take a substantial program in Greek and Latin.

The concentration requires the completion of seven courses (a minimum 21 points) and must include the following:

1. In a primary language, six courses distributed as follows:
  - Five courses above the *1100*-level, three of which must be *3000*- or *4000*-level.
  - One course from the following three advanced options (*W4105*, *W4106*, *W4139*)
2. One course in Ancient History or Classical Civilization (3 points)



## 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 and must include the following:

1. Language Courses (at least 15 points)
  - Four or five modern Greek courses to be taken above the 1202-level.
  - GRKM V3998 Senior Research Seminar to be completed under the supervision of a staff member.
2. Two additional courses to be taken in related fields, including (but not limited to) comparative literature, classics, history, anthropology, political science, architecture, and sociology. These courses are to be chosen in consultation with the adviser and should conform to the student's overall course of studies (6-8 points)

## COLLOQUIA, INTERDEPARTMENTAL SEMINARS, AND PROFESSIONAL SCHOOL OFFERINGS

Occasionally, and for a variety of reasons, faculty offer courses outside of the existing structure of Arts and Sciences academic departments. Such courses may be colloquia: team-taught interdisciplinary courses; interdepartmental seminars explicitly offered by two or more academic departments; or undergraduate-specific courses offered by faculty outside of the Arts and Sciences. All these courses may be counted toward the undergraduate degree, but it is for the faculty of each department or program to determine whether or not they can count toward a major or concentration.

# COMPARATIVE LITERATURE AND SOCIETY

**Program Office:** B-101 Heyman Center, East Campus;  
212-854-4541; [icls@columbia.edu](mailto:icls@columbia.edu)  
<http://icls.columbia.edu>

**Director:** Prof. Stathis Gourgouris, 608 Hamilton;  
212-854-9638; [ssg93@columbia.edu](mailto:ssg93@columbia.edu)

**Director of Undergraduate Studies:** Associate Prof.  
Madeleine Dobie, 510 Philosophy; 212-854-9874;  
[mld2027@columbia.edu](mailto:mld2027@columbia.edu)

**Assistant Director:** Catherine LaSota, B-102 Heyman Center,  
East Campus; 212-854-8850; [clasota@columbia.edu](mailto:clasota@columbia.edu)

Established at Columbia in 1998, the Institute for Comparative Literature and Society (ICLS) (<http://icls.columbia.edu>) promotes 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; in art history, architecture, and media; and in the medical humanities.

The major program at ICLS allows qualified students to study 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 participating departments.

The program is 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 core courses are jointly taught by faculty from different disciplines. Students 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; medicine and the humanities; and studies of space, cities, and architecture. As a major or concentration, this program 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.

Students can choose to complete the major in Comparative Literature and Society (CLS) or the major track in Medicine, Literature, and Society (MLS). Currently, the MLS track is not available for the concentration.

Given the wide variety of geographic and disciplinary specializations possible within the major and concentration, students construct their course sequence in close collaboration with the director of undergraduate studies. All students, however, share the experience of taking the course CPLS V3900 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 ICLS major and concentration are 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 CLS major, the MLS major track, or the CLS concentration 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 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=CPLS%20V3900>) Introduction to Comparative Literature and Society in the spring semester of the sophomore year.

Information about admission requirements and application to the major or concentration can be found at [http://icls.columbia.edu/academics/undergraduate/the\\_undergraduate\\_program](http://icls.columbia.edu/academics/undergraduate/the_undergraduate_program). Students are advised to meet with the director of undergraduate studies before submitting the statement of purpose for 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 will be conferred only on students who have submitted a superior senior thesis that clearly demonstrates originality and excellent scholarship. Note that the senior thesis is not required for the major. For information on the honors program, see [http://icls.columbia.edu/academics/undergraduate/undergraduate\\_departmental\\_honors](http://icls.columbia.edu/academics/undergraduate/undergraduate_departmental_honors).

## FACULTY EXECUTIVE COMMITTEE OF ICLS

Gil Anidjar (Religion; Middle Eastern, South Asian, and African Studies)  
 Jean Louise Cohen (Political Science)  
 Patricia Dailey (English)  
 Souleymane Bachir Diagne (French and Romance Philology)  
 Mamadou Diouf (Middle Eastern, South Asian, and African Studies)  
 Madeleine Dobie (French and Romance Philology)  
 Brent Hayes Edwards (English; Jazz Studies)  
 Stathis Gourgouris (Classics; English and Comparative Literature)  
 Andreas Huyssen (Germanic Languages)  
 Lydia Liu (East Asian Languages and Cultures)  
 Reinhold Martin (Architecture)  
 Rosalind Morris (Anthropology)  
 Anupama Rao (History, Barnard)  
 Jesús Rodríguez-Velasco (Latin American and Iberian Cultures)  
 Oliver Simons (Germanic Languages)  
 Gayatri Chakravorty Spivak (University Professor)  
 Nadia Urbinati (Political Science)  
 W.B. Worthen (Theatre, Barnard)

## REQUIREMENTS GUIDELINES FOR ALL ICLS MAJORS AND CONCENTRATORS

At the time of application, students interested in the major (including the major track in medicine, literature, and society) or concentration must have met these requirements:

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 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=CPLS%20V3900>) 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, 1-2 pages in length. The focus is a period, theme, problem, movement, etc., that is explored from an interdisciplinary and/or a comparative perspective. Faculty understand that this statement is a work in progress, but that it serves as a useful guide to students' academic pursuits and course selection.

## MAJOR IN COMPARATIVE LITERATURE AND SOCIETY

The major in comparative literature and society requires a minimum of 42 points, or 14 courses, in comparative literature and society as follows. 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 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=CPLS%20V3900>) Introduction to Comparative Literature and Society, required for all majors and 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 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)

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## MAJOR TRACK IN MEDICINE, LITERATURE, AND SOCIETY

The major track in medicine, literature, and society requires 15 courses of study. Students interested in the track are strongly encouraged to fulfill their science requirement with classes in human biology (e.g., *Human Species, Genes and Development*) or human psychology (e.g., *Mind, Brain, and Behavior*).

1. CPLS V3900 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=CPLS%20V3900>) Introduction to Comparative Literature and Society,

required for all ICLS majors and normally taken in the spring of the sophomore year.

2. Three courses with a *CPLS* designator. *CLxx* courses, i.e., courses designated as comparative in nature by various language-literature or social science departments, may count for the major with director of undergraduate studies' approval.
3. Three courses within a given department/discipline that address students' focused interest (Literature and Medicine; Medical Anthropology; History of Medicine/ Public Health) and develop the methodological skills of that discipline
4. 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
5. Four courses in interdisciplinary studies that address the nexus of the students' interests (Literature and Medicine; Medical Anthropology; History of Medicine/ Public Health) OR an individual area of specialization (e.g., Disability Studies; Neuroscience and the Human; Technology Studies; Discourses of the Body; Biopolitics; Bioethics; etc.)
6. One course of engaged scholarship/service learning/ independent project. (This may be fulfilled by appropriate study abroad and/or study elsewhere in the United States.)
7. *CPLS* V3992 Senior Seminar in Medicine, Literature, and Society
8. Senior thesis (optional)

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.

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## CONCENTRATION IN COMPARATIVE LITERATURE AND SOCIETY

The concentration in comparative literature and society requires a total of 36 points, or 12 courses in comparative literature and society as follows:

1. *CPLS* V3900 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=CPLS%20V3900>)  
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



# COMPUTER SCIENCE

**Departmental Office:** 450 Computer Science Building;  
212-939-7000  
<http://www.cs.columbia.edu/>

**Associate Chair for Undergraduate Education:** Dr. Adam Cannon, 459 Computer Science Building; 212-939-7016;  
[cannon@cs.columbia.edu](mailto:cannon@cs.columbia.edu)

The majors in computer science provide students with the appropriate computer science background necessary for graduate study or a professional career. Computers impact nearly all areas of human endeavor. Therefore, the department also offers courses for students who do not plan a computer science major or concentration. The computer science majors offer maximum flexibility by providing students with a range of options for program specialization. The department offers three majors: computer science; information science; and computer science-mathematics, offered jointly with the Mathematics Department.

## 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 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 on-line 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 science 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 Introduction to Computer Science and Programming in Java. 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 multi-processor file servers, NetApp file servers, a student interactive teaching and research lab of high-end multimedia workstations, a load balanced web cluster with 6 servers and business process servers, a large student laboratory, featuring 18 windows machines and 33 Linux towers each with 8 cores and 24GB memory; a remote Linux cluster with 17 servers, a large Linux compute cluster and a number of computing facilities for individual research labs. In addition, the data center houses a compute cluster consisting of a Linux cloud with 43 servers each with 2 Nehalem processors, 8 cores and 24GB memory. This can support about 5000 of VMware instances.

Research labs contain several large Linux and Solaris clusters, Puma 500 and IBM robotic arms; a UTAH-MIT dexterous hand; an Adept-1 robot; three 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; an IDS testbed with secured LAN, Cisco routers, EMC storage & Linux servers; a simulation testbed with several Sun servers & Cisco Catalyst routers. The department uses a SIP IP phone system. The protocol was developed in the department.

The department's computers are connected via a switched 1Gb/s Ethernet network, which has direct connectivity to the campus OC-3 Internet and internet 2 gateways. The campus has 802.11b/g wireless LAN coverage.

The research facility is supported by a full-time staff of professional system administrators and programmers.

## FACULTY PROFESSORS

- Alfred V. Aho
- Peter K. Allen
- Peter Belhumeur
- Steven M. Bellovin
- Michael J. Collins
- Steven K. Feiner
- Luis Gravano
- Jonathan L. Gross
- Julia Hirschberg
- Gail E. Kaiser
- John R. Kender
- Kathleen R. McKeown
- Shree K. Nayar
- Jason Nieh
- Steven M. Nowick
- Kenneth A. Ross
- Henning G. Schulzrinne
- Salvatore J. Stolfo
- Joseph F. Traub
- Henryk Wozniakowski
- Mihalis Yannakakis

## ASSOCIATE PROFESSORS

- Luca Carloni
- Stephen A. Edwards
- Eitan Grinspun
- Tony Jebara
- Angelos D. Keromytis
- Tal Malkin
- Vishal Misra
- Itshack Pe'er
- Daniel Rubenstein
- Rocco Servedio
- Simha Sethumadhavan

- Junfeng Yang

## ASSISTANT PROFESSORS

- Augustin Chaintreau
- Xi Chen
- Roxana Geambasu
- Daniel Hsu
- Martha Allen Kim
- Allison Lewko
- Changxi Zheng

## SENIOR LECTURER IN DISCIPLINE

- Adam Cannon

## LECTURER IN DISCIPLINE

- Jae Woo Lee

## ASSOCIATED FACULTY

- Shih-Fu Chang
- Edward G. Coffman Jr.
- Dana Pe'er
- Clifford Stein
- Steven H. Unger (*emeritus*)
- Vladimir Vapnik
- Yechiam Yemini (*emeritus*)

## SENIOR RESEARCH SCIENTISTS

- Arthur G. Werschulz
- Moti Yung

## RESEARCH SCIENTISTS

- Rebecca Passonneau
- Owen Rambow
- Anargyros Papageorgiou

## ASSOCIATED RESEARCH SCIENTISTS

- Marta Arias
- Jiang Chen
- Wei Chu
- Mona Diab
- Mohit Gupta
- Nizar Habash
- Claire Monteleoni
- Michail Polychronakis
- Cynthia Rudin
- Ansaf Salieb-Aouissi

## REQUIREMENTS GUIDELINES FOR ALL COMPUTER SCIENCE MAJORS AND CONCENTRATORS

Students may receive credit for only one of the following two courses:

- COMS W1004 Introduction to Computer Science and Programming in Java
- COMS W1005 Introduction to Computer Science and Programming in MATLAB.

Students may receive credit for only one of the following three courses:

- COMS W3134 Data Structures in Java
- COMS W3136 Data Structures with C/C++
- COMS W3137 Honors Data Structures and Algorithms.

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## MAJOR IN COMPUTER SCIENCE

Please read *Guidelines for all Computer Science Majors and Concentrators* above.

All majors should confer with their program adviser each term to plan their programs of study. Students considering a major in computer science are encouraged to talk to a program advisor during their first or second year. 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 toward the major or concentration. A typical program of study is as follows:

### Program of Study

#### Computer Science Core—22 - 24 Points

#### For students who declare in Spring 2014 and beyond:

ENGI E1006 Introduction to Computing for Engineers and Applied Scientists (is recommended but not required.)

#### First Year

COMS W1004 Introduction to Computer Science and Programming in Java  
or COMS W1007 Honors Introduction to Computer Science

#### Sophomore Year

COMS W3157 Advanced Programming  
COMS W3203 Discrete Mathematics: Introduction to Combinatorics and Graph Theory  
COMS W3134 Data Structures in Java

or COMS W3137 Honors Data Structures and Algorithms

#### Junior and Senior Year

Select the remaining required core courses:

COMS W3261 Computer Science Theory

CSEE W3827 Fundamentals of Computer Systems

Select one of the following:

COMS W3210 Scientific Computation

COMS W3251 Computational Linear Algebra

SIEO W3600 Introduction to Probability and Statistics

or SIEO W4150 Introduction to Probability and Statistics

Students who have taken AP Computer Science in high school and received a score of 4 or 5 are exempt from COMS W1004 Introduction to Computer Science and Programming in Java, but are encouraged to pursue the honors introductory sequence COMS W1007 Honors Introduction to Computer Science- COMS W3137 Honors Data Structures and Algorithms.

#### For students who declared prior to Spring 2014:

#### First Year

COMS W1004 Introduction to Computer Science and Programming in Java

#### Sophomore Year

COMS W1007 Honors Introduction to Computer Science

COMS W3157 Advanced Programming

COMS W3203 Discrete Mathematics: Introduction to Combinatorics and Graph Theory

COMS W3137 Honors Data Structures and Algorithms

#### Junior and Senior Year

COMS W3261 Computer Science Theory

CSEE W3827 Fundamentals of Computer Systems

Students who have taken AP Computer Science in high school and received a score of 4 or 5 are exempt from COMS W1004 Introduction to Computer Science and Programming in Java.

Beyond the CS Core, for students that declare before or after Spring 2014, the major requires 41 or 44 points depending on the track as follows:

#### Mathematics—3 points

Calculus II or Calculus III.

### 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—15 points

For students interested in algorithms, computational complexity, scientific computing, and security.

##### Required Courses

CSOR W4231	Analysis of Algorithms I
COMS W4236	Introduction to Computational Complexity
COMS W4241	Numerical Algorithms and Complexity

##### Track Electives

COMS W4203	Graph Theory
COMS W4205	Combinatorial Theory
COMS W4252	Introduction to Computational Learning Theory
COMS W4261	Introduction to Cryptography
COMS W4281	Introduction to Quantum Computing
COMS W4444	Programming and Problem Solving
COMS W4771	Machine Learning
COMS W4772	Advanced Machine Learning

Adviser Approved:

COMS W3902	Undergraduate Thesis
COMS W3998	Undergraduate Projects in Computer Science
COMS W4901	Projects in Computer Science
COMS W4995	Special Topics in Computer Science, I
COMS W4996	Special Topics in Computer Science, II

##### One Breadth Course

Any 3-point COMS 3000- or 4000-level course except those courses in the CS core or in the required or elective courses for this track

### Software Systems Track—15 Points

For students interested in networking, programming languages, operating systems, and software systems.

##### Required Courses

COMS W4115	Programming Languages and Translators
COMS W4118	Operating Systems I
CSEE W4119	Computer Networks

##### Track Electives

Any COMS W41xx course	
Any COMS W48xx course	
COMS W4444	Programming and Problem Solving

Adviser Approved:

COMS W3902	Undergraduate Thesis
COMS W3998	Undergraduate Projects in Computer Science
COMS W4901	Projects in Computer Science
COMS W4995	Special Topics in Computer Science, I
COMS W4996	Special Topics in Computer Science, II

##### One Breadth Course

Any 3-point COMS 3000- or 4000-level course except those courses in the CS core or in the required or elective courses for this track

### Intelligent Systems Track—15 Points

For students interested in machine learning, robotics, and systems capable of exhibiting “human-like” intelligence.

##### Required Courses

Select two of the following:

COMS W4701	Artificial Intelligence
COMS W4705	Natural Language Processing
COMS W4706	Spoken Language Processing
COMS W4731	Computer Vision
COMS W4733	Computational Aspects of Robotics
COMS W4771	Machine Learning

**Track Electives**

Any COMS W40xx course

COMS Introduction to Computational Learning  
W4252 Theory

Any COMS W47xx course

Adviser Approved:

COMS Undergraduate Thesis  
W3902COMS Undergraduate Projects in Computer  
W3998 ScienceCOMS Projects in Computer Science  
W4901COMS Special Topics in Computer Science, I  
W4995COMS Special Topics in Computer Science, II  
W4996**One Breadth Course**

Any 3-point COMS 3000- or 4000-level course except those courses in the CS core or in the required or elective courses for this track

**Applications Track—15 Points**

For students interested in interactive multimedia applications for the internet and wireless networks.

**Required Courses**COMS Programming Languages and Translators  
W4115COMS User Interface Design  
W4170**Track Electives**

Any COMS W41xx course

Any COMS W47xx course

Adviser Approved:

COMS Undergraduate Thesis  
W3902COMS Undergraduate Projects in Computer  
W3998 ScienceCOMS Projects in Computer Science  
W4901COMS Special Topics in Computer Science, I  
W4995COMS Special Topics in Computer Science, II  
W4996**One Breadth Course**

Any 3-point COMS 3000- or 4000-level course except those courses in the CS core or in the required or elective courses for this track

**Vision and Graphics Track—15 points**

For students interested in computer vision, graphics, and advanced forms of human computer interaction.

**Required Courses**

Select two of the following:

COMS Computer Graphics  
W4160COMS Computer Animation  
W4167COMS Computer Vision  
W4731**Track Electives**COMS Advanced Computer Graphics  
W4162COMS User Interface Design  
W4170COMS 3D User Interfaces and Augmented Reality  
W4172COMS Artificial Intelligence  
W4701COMS Computational Aspects of Robotics  
W4733COMS Visual Interfaces to Computers  
W4735COMS Machine Learning  
W4771

Adviser Approved:

COMS Undergraduate Thesis  
W3902COMS Undergraduate Projects in Computer  
W3998 ScienceCOMS Projects in Computer Science  
W4901COMS Special Topics in Computer Science, I  
W4995COMS Special Topics in Computer Science, II  
W4996**One Breadth Course**

Any 3-point COMS 3000- or 4000-level course except those courses in the CS core or in the required or elective courses for this track

**Combination Track—18 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.



## MAJOR IN COMPUTER SCIENCE— MATHEMATICS

For a description of the joint major in computer science—mathematics, see the *Mathematics* section in this bulletin.

## MAJOR IN INFORMATION SCIENCE

Please read *Guidelines for all Computer Science Majors and Concentrators* above.

The major in information science requires 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.

### Core Requirement

COMS W1001	Introduction to Information Science
COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1007	Honors Introduction to Computer Science
COMS W3134	Data Structures in Java
SIEO W4150 or SIEO W3600	Introduction to Probability and Statistics Introduction to Probability and Statistics

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:

Three courses involving processing of text or data such as the following:

COMS W4111	Introduction to Databases
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COMS W4705	Natural Language Processing
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COMS W4771	Machine Learning
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Two courses from human-focused areas such as the following:

COMS W4170	User Interface Design
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PSYC W2215 Cognition and the Brain

Two application courses (e.g., from economics or biology)

### 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:

Two courses in artificial intelligence and mathematical modeling such as the following:

COMS W4701	Artificial Intelligence
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COMS W4771	Machine Learning
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One course involving processing of text or data such as the following:

COMS W4111	Introduction to Databases
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Two courses each in economics and finance such as the following:

Economics:

ECON W1105	Principles of Economics
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ECON BC3017	Economics of Business Organization
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Finance:

IEOR E4007	Optimization Models and Methods for Financial Engineering
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IEOR E4308	Industrial Budgeting and Financial Control
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### 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 to understanding the role that computational processes play in decoding the human genome.

The requirements include:

Three courses in either artificial intelligence and mathematical modeling, processing of text or data, or human computer interaction such as the following:

Artificial Intelligence and Mathematical Modeling:

COMS Artificial Intelligence  
W4701

Processing of Text or Data:

COMS Introduction to Databases  
W4111

Human Computer Interaction:

COMS User Interface Design  
W4170

Three courses drawn from the biomedical area such as the following:

ECBM Introduction to genomic information  
E3060/E4060 science and technology

BIOL W4037 Bioinformatics of Gene Expression

BINF G4001 Introduction To Computer Applications  
In Health Care and Biomedicine

One course drawn from a human centered area such as the following:

PSYC W2215 Cognition and the Brain

## MAJOR IN COMPUTER SCIENCE- STATISTICS

Please read *Guidelines for all Computer Science Majors and Concentrators* above.

In response to the ever growing importance of "big data" in scientific and policy endeavors, the last few years have seen an explosive growth in theory, methods, and applications at the interface between computer science and statistics. The Statistics Department and the Department of Computer Science have responded with a joint-major that emphasizes the interface between the disciplines.

### Prerequisites (15 points)

MATH Calculus I  
V1101

MATH Calculus II  
V1102

MATH Calculus III  
V1201

MATH Linear Algebra  
V2010

Select one of the following:

STAT Introduction to Statistical Reasoning  
W1001

STAT Introduction to Statistics (without  
W1111 calculus)

STAT Introduction to Statistics (with calculus)  
W1211

### Statistics (12 points)

STAT W3105 Introduction to Probability  
or STAT Introduction to Probability  
W4105

STAT W3107 Introduction to Statistical Inference  
or STAT Introduction to Statistical Inference  
W4107

STAT W3315 Linear Regression Models  
or STAT Linear Regression Models  
W4315

STAT W4400 Statistical Machine Learning  
or COMS Machine Learning  
W4771

### Computer Science (15 points)

Select one of the following:

COMS Introduction to Computer Science and  
W1004 Programming in Java

COMS Introduction to Computer Science and  
W1005 Programming in MATLAB

ENGI E1006 Introduction to Computing for Engineers  
and Applied Scientists

COMS Honors Introduction to Computer Science  
W1007

Select one of the following:

COMS Data Structures in Java  
W3134

COMS Data Structures with C/C++  
W3136

COMS Honors Data Structures and Algorithms  
W3137

Three required courses:

COMS Discrete Mathematics: Introduction to  
W3203 Combinatorics and Graph Theory

COMS Scientific Computation  
W3210

CSOR W4231 Analysis of Algorithms I

### Electives (12 points)

Select two of the following:

STAT Applied Data Mining  
W3026

STAT Data Mining  
W4240

STAT Statistical Computing in SAS  
W4199

STAT Introduction to Data Science  
W4242

STAT Elementary Stochastic Processes  
W4606

STAT Applied Data Science  
W4249

Select two of the following:

COMS Computer Science Theory  
W3261

COMS Introduction to Computational  
W4236 Complexity

COMS Introduction to Computational Learning  
W4252 Theory

COMS Introduction to Databases  
W4111

COMS Principles and Practice of Parallel  
W4130 Programming

Any COMS W47xx course

or SIEO Introduction to Probability and Statistics  
W4150

## For students who declared prior to Spring 2014:

The concentration requires a minimum of 23 points. Required computer science courses:

COMS Introduction to Computer Science and  
W1004 Programming in Java

COMS Honors Introduction to Computer Science  
W1007

COMS Honors Data Structures and Algorithms  
W3137

COMS Advanced Programming  
W3157

COMS Computer Science Theory  
W3261

CSEE W3827 Fundamentals of Computer Systems (or  
any 3-point 4000-level computer science  
course.)

## CONCENTRATION IN COMPUTER SCIENCE

Please read *Guidelines for all Computer Science Majors and Concentrators* above.

## For students who declare in Spring 2014 and beyond:

The concentration in computer science requires a minimum of 22-24 points. Required computer science courses:

COMS Introduction to Computer Science and  
W1004 Programming in Java

or COMS Honors Introduction to Computer Science  
W1007

COMS Discrete Mathematics: Introduction to  
W3203 Combinatorics and Graph Theory

COMS Data Structures in Java  
W3134

or COMS Honors Data Structures and Algorithms  
W3137

COMS Advanced Programming  
W3157

COMS Computer Science Theory  
W3261

CSEE W3827 Fundamentals of Computer Systems (or  
any 3 point 4000 -level computer science  
course)

Select one of the following:

COMS Scientific Computation  
W3210

COMS Computational Linear Algebra  
W3251

SIEO Introduction to Probability and Statistics  
W3600

# CREATIVE WRITING

**Program Office:** 617 Kent; 212-854-3774  
<http://www.columbia.edu/cu/writing>

**Director of Undergraduate Studies:** Prof. Heidi Julavits, 617 Kent; 212-854-3774; [hj26@columbia.edu](mailto:hj26@columbia.edu)

**Executive Committee on Undergraduate Creative Writing:**  
 Prof. Timothy Donnelly, 415 Dodge; 212-854-4391; [td28@columbia.edu](mailto:td28@columbia.edu)  
 Prof. Sam Lipsyte (chair), 415 Dodge; 212-854-4391; [sam.lipsyte@columbia.edu](mailto:sam.lipsyte@columbia.edu)  
 Prof. Alan Ziegler, 415 Dodge; 212-854-4391; [az8@columbia.edu](mailto:az8@columbia.edu)

The Creative Writing Program in The School of the Arts combines intensive writing workshops with seminars that study literature from a writer's perspective. Students develop and hone their literary technique in workshops. The seminars (which explore literary technique and history) broaden their sense of possibility by exposing them to various ways that language has been used to make art. Related courses are drawn from departments such as English, comparative literature and society, philosophy, history, and anthropology, among others.

Students consult with faculty advisers to determine the related courses that best inform their creative work. The creative writing major is by application only. For details, see the Creative Writing website: [www.columbia.edu/cu/writing](http://www.columbia.edu/cu/writing).

## FACULTY PROFESSORS

- Margo L. Jefferson
- Benjamin Marcus
- Alan Ziegler

## ASSOCIATE PROFESSORS

- Susan Bernofsky
- Heidi Julavits
- Timothy Donnelly

## ASSISTANT PROFESSORS

- Dorothea Lasky

## ADJUNCT PROFESSORS

- Ellis Avery
- Priscilla Becker
- Amy Benson
- Susan Daitch
- Ann DeWitt
- Elyssa East
- Joshua Furst
- Porochista Khakpour

- Marie Myung-Ok Lee
- Gregory Lichtenberg
- Jennifer Miller
- Robert Ostrom
- Mark Rozzo
- Justin Taylor
- Justin Torres

## GRADUATE FACULTY FELLOWS

- William Brewer
- Madeline Felix
- Javier Fuentes
- Ajla Hodzic
- John C. Prioleau
- Ryan Smith
- Rachel Sur

## REQUIREMENTS

### MAJOR IN CREATIVE WRITING

A minimum of 36 points: 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 detailed written reports and thorough line-edits) assess the mechanics and merits of the writing pieces. Individual instructor conferences distill the critiques into a direct plan of action to improve the work. Student writers develop by practicing the craft under the diligent critical attention of their peers and instructor, which guides them 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.

#### Beginning Workshop

Designed for students who have little or no previous experience writing literary texts in a particular genre.

WRIT W1001 Beginning Fiction Workshop

WRIT W1101 Beginning Nonfiction Workshop

WRIT W1201 Beginning Poetry Workshop

#### Intermediate Workshop

Permission required. Admission by writing sample. Enrollment limited to 15. Course may be repeated in fulfillment of the major.

WRIT W2001 Intermediate Fiction Workshop

WRIT W2101 Intermediate Nonfiction Workshop

WRIT W2201 Intermediate Poetry Workshop

**Advanced Workshop**

Prerequisite: intermediate workshop. Permission required. Admission by writing sample. Enrollment limited to 15. Course may be repeated in fulfillment of the major.

WRIT W3001 Advanced Fiction Workshop

WRIT W3101 Advanced Nonfiction Workshop

WRIT W3201 Advanced Poetry Workshop

**Senior Creative Writing Workshop**

Seniors who are creative writing majors are given priority. Enrollment limited to 12, by instructor's permission.

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.

WRIT W3697 Senior Fiction Workshop

WRIT W3798 Senior Nonfiction Workshop

WRIT W3898 Senior Poetry Workshop

**Seminar Curriculum**

The creative writing seminars provide the intellectual ballast that informs and deepens the work of student writers. Students read a book each week and engage in roundtable discussions about the artistic attributes of the texts, in order to better understand how literature is created. Only through a deep analysis of outstanding and diverse works of literature can writers build the resources necessary to produce their own accomplished creative work.

Twelve points within the division. Any 4 of these seminars fulfill the requirement:

**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

WRIT W3301 Fiction Seminar: Techniques of the Short Story

WRIT W3302 Fiction Seminar: Approaches to the Short Story

WRIT W3333 Nonfiction Seminar: Traditions in Nonfiction

WRIT W3336 Translation Seminar

WRIT W3351 Poetry Seminar: Approaches to Poetry

WRIT W3303 Fiction Seminar: The Long and Short of It

**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.

WRIT W3303 Fiction Seminar: The Long and Short of It

WRIT W3306 Fiction Seminar: Voices from the Edge

WRIT W3308 Seminar: Short Prose Forms

WRIT W3336 Translation Seminar

**Related Courses (9 points)**

Drawn from various departments, these courses provide concentrated intellectual and creative stimulation, as well as exposure to ideas that enrich students' artistic instincts. Courses may be different for each student writer. Students consult with faculty advisers to determine the related courses that best inform their creative work.



# DANCE

310 Barnard Hall  
212-854-2995  
212-854-6943 (fax)  
dance@barnard.edu

Administrative Assistant: Sandra Velasquez Dos Santos

## THE DEPARTMENT OF DANCE

### Mission

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, New York Live Arts, 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.

### Student Learning Outcomes for the Major and Concentration

Students graduating with a major in Dance should be able to attain the following outcomes:

- Apply critical thinking, reading, and writing skills to dance-related texts and choreography.
- Develop the knowledge and research skills to explore the dance past in writing, orally, and in performance.
- Present interpretations of dance-related texts orally, in writing, and in performance.
- Apply library, archival, and internet research skills to dance scholarship and choreography.
- Demonstrate improved efficiency and expressivity in dance technique.
- Demonstrate growing technical understanding and fluency in dance technique.

- Create original dances, dance/theater works or dance-based, mixed media works.
- Collaborate with an artist in the creation of original dance works.
- Participate in the creative process through the creation and interpretation of choreography.
- Apply interdisciplinary research methods to dance scholarship and choreography.
- Apply historical research methods to dance scholarship and choreography.
- Demonstrate conceptual and methodological approaches for studying world dance forms through research and writing.
- Demonstrate the ability to understand cultural and historical texts in relation to dance forms.
- Apply anatomical knowledge to movement and movement concepts.
- Evaluate the theoretical and artistic work of peers.
- Communicate with an audience in oral presentations and dance performance.
- Understand and interpret the language and form of an artist's choreography.
- Solve technical problems in dance movement.
- Apply musical knowledge to movement and choreography.
- Design choreographic movement and structures.

### Dance Technique Courses

Level I courses, except for global and somatic courses, have no prerequisite and students receive a Pass/Fail grade. All other courses must be taken for a letter grade and require a placement audition (held at the first meeting of classes) or the permission of the instructor. These courses may be taken to fulfill 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 the 20th and 21st century innovators. Aesthetic principles of modern dance will be taught with increased technical demands required at each successive level.

#### Global and Somatic Forms

The study of dance forms including classical Spanish, Jazz, Tap, West African, Afro-Cuban, and Indian.

## FACULTY

**Distinguished Guest Artist (2014-15):** Twyla Tharp  
**Professor:** Lynn Garafola (co-chair)

**Associate Professor:** Paul Scolieri

**Associate Professor of Professional Practice:** Colleen Thomas

**Assistant Chair:** Katie Glasner (co-chair)

**Visiting Associate Professor of Professional Practice:** Marjorie Folkman

**Faculty:**

Mindy Aloff, Cynthia Anderson, Rebecca Bliss, Alex Brady, Siobhan Burke, Maguette Camara, Antonio Carmena, Mary Carpenter, Tessa Chandler, Elizabeth Coker, Uttara Coolawala, Chisa Hidaka, Allegra Kent, Katiti King, Robert LaFosse, Melinda Marquez, Jodi Melnick, Andrea Miller, Margaret Morrison, Rika Okamoto, David Parker, Kathryn Sullivan, Caitlin Trainor, Ashley Tuttle, Adam H. Weinert, Seth Williams, Karla Wolfangle

**Artists in Residence:** John Heginbotham, Patricia Hoffbauer, Sam Kim, Pam Tanowitz

**Technical Director and Lighting Designer:** Tricia Toliver

**Music Director:** Robert Boston

**Administrative Assistant:** Sandra Velasquez Dos Santos

## REQUIREMENTS

### MAJOR IN DANCE (FOR STUDENTS ENTERING IN FALL 2011 OR LATER)

Majors must complete eleven academic courses (six required, five elective) and a minimum of eight 1-point technique courses. All majors write a senior thesis as part of their coursework.

The required courses for the major in dance are distributed as follows:

#### Dance History

The following two courses are required and should be completed before the senior year:

DNCE BC2565	World Dance History	3
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DNCE BC3001	Western Theatrical Dance from the Renaissance to the 1960s	3
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#### Movement Science

Select one or more of the following:

DNCE BC2501	Biomechanics for the Dancer: Theory and Practice	3
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DNCE BC2561	Kinesiology: Applied Anatomy for Human Movement	3
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DNCE BC2562	Movement Analysis	3
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#### Composition

Select one or more of the following:

DNCE BC2564	Dance Composition: Content	3
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DNCE BC3565	Composition: Collaboration and the Creative Process	3
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DNCE BC3566	Composition: Site Specific and Experimental Methods	3
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DNCE BC2563	Composition: Form, Dance/Theater	3
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#### Senior Work

All majors must complete two semesters of senior work. The following course, which culminates in a 25-30-page written thesis and an oral presentation to the Department at the end of the semester, is required of all seniors:

DNCE BC3591	Senior Seminar in Dance	4
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In addition, all majors must take one of the following two courses, depending on whether the senior requirement is completed with a creative project or a two-semester written thesis:

DNCE BC3592	Senior Project: Research for Dance	
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DNCE BC3593	Senior Project: Repertory for Dance	
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Students who are double majors may request permission to write a two-semester combined thesis.

#### Electives

Five additional 3- or 4-point courses, chosen in consultation with the major advisor, are required. Electives may be chosen from among the departmental offerings listed above or below, including additional coursework in Composition, Movement Science, and/or Senior Work beyond the major requirement.

#### History/Criticism:

DNCE BC3580	History of Social Dancing: Dance crazes from the Waltz to Flash Mobs	
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DNCE BC2570	Dance in New York City	
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DNCE BC2575	Choreography for the American Musical	
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DNCE BC2580	Tap as an American Art Form	
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DNCE BC3000	From the Page to the Dance Stage	
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DNCE BC3200	Dance in Film	
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DNCE BC3567	Dance of India	
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DNCE BC3570	Latin American and Caribbean Dance: Identities in Motion	
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DNCE BC3575	George Balanchine and the Reinvention of Modern Ballet	
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DNCE BC3577	Performing the Political: Embodying Change in American Performance	
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DNCE BC3578	Traditions of African-American Dance	
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DNCE BC3583 Gender and Historical Memory in American Dance of the 1930's to the Early 1960's

DNCE BC3980 Performing the Political: Embodying Change in American Performance

DNCE BC3981 Inventing American Modern Dance: Ruth St. Denis and Ted Shawn

DNCE BC3982 Diaghilev's Ballets Russes and Its World

#### **Studio/Performance:**

DNCE BC2555 Ensemble Dance Repertory (Modern Dance)

DNCE BC2556 Ensemble Dance Repertory: Ballet

DNCE BC2557 Evolution of Spanish Dance Style

DNCE BC2558 Tap Ensemble

DNCE BC2567 Music for Dance

DNCE BC3571 Solo Repertory: Performance Styles

DNCE BC3601 Rehearsal and Performance in Dance and Rehearsal and Performance in Dance - DNCE BC3604

## **Overview of Major Requirements (11 total, plus 8 technique courses)**

- 1 Movement Science
- 1 Composition
- 2 History
- 1 Senior Seminar
- 1 Senior Project (Research in Dance or Repertory for Dance)
- 5 Electives
- 8 Technique Courses

## **MAJOR IN DANCE (FOR STUDENTS DECLARING A MAJOR BEFORE FALL 2011)**

Majors must fulfill an eleven-course requirement, including the DNCE BC3591 Senior Seminar in Dance and either Senior Project: Research in Dance (DNCE BC3592 Senior Project: Research for Dance) or DNCE BC3593 Senior Project: Repertory for Dance, in addition to taking a minimum of eight 1-point technique courses.

To fulfill the distribution requirements, one course must be taken in each of the following four areas:

### **Movement Science**

DNCE BC2501 Biomechanics for the Dancer: Theory and Practice 3

DNCE BC2561 Kinesiology: Applied Anatomy for Human Movement 3

DNCE BC2562 Movement Analysis 3

### **Composition**

DNCE BC3566 Composition: Site Specific and Experimental Methods 3

DNCE BC2563 Composition: Form, Dance/Theater 3

DNCE BC2564 Dance Composition: Content 3

DNCE BC3565 Composition: Collaboration and the Creative Process 3

### **History**

DNCE BC2565 World Dance History 3

DNCE BC3001 Western Theatrical Dance from the Renaissance to the 1960s 3

### **Writing**

DNCE BC2570 Dance in New York City 3

DNCE BC3570 Latin American and Caribbean Dance: Identities in Motion 3

DNCE BC3574 Inventing the Contemporary: Dance Since the 1960s 3

DNCE BC3576 Dance Criticism 3

DNCE BC3577 Performing the Political: Embodying Change in American Performance 3

### **Electives**

In consultation with the major advisor, an additional five courses should be chosen from the courses listed above or below:

#### **History/Criticism:**

DNCE BC2575 Choreography for the American Musical

DNCE BC2580 Tap as an American Art Form

DNCE BC3000 From the Page to the Dance Stage

DNCE BC3567 Dance of India

DNCE BC3575 George Balanchine and the Reinvention of Modern Ballet

DNCE BC3577 Performing the Political: Embodying Change in American Performance

DNCE BC3578 Traditions of African-American Dance

DNCE BC3980	Performing the Political: Embodying Change in American Performance
DNCE BC3982	Diaghilev's Ballets Russes and Its World

**Studio/Performance:**

DNCE BC2555	Ensemble Dance Repertory (Modern Dance)
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DNCE BC2556	Ensemble Dance Repertory: Ballet
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DNCE BC2558	Tap Ensemble
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DNCE BC2567	Music for Dance
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DNCE BC3571	Solo Repertory: Performance Styles
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DNCE BC3572	Dance Production
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DNCE BC3601 - DNCE BC3604	Rehearsal and Performance in Dance and Rehearsal and Performance in Dance
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**Overview of Concentration Requirements  
(8 total, plus 8 technique classes)**

- 1 Movement Science
- 1 Composition
- 2 History
- 1 Senior Seminar
- 1 Senior Project (Research in Dance or Repertory for Dance)
- 2 Electives
- 8 Technique Classes

**Senior Work**

All dance majors must complete two semesters of senior work. DNCE BC3591 Senior Seminar in Dance given in the fall semesters, requires a 25-30 page written thesis and an oral presentation to the Department at the end of the semester. The second semester is usually a performance project for which the student registers in DNCE BC3593 Senior Project: Repertory for Dance. Students may also choose to do a two-semester thesis, registering in DNCE BC3592 Senior Project: Research for Dance. Students who are double majors may request permission to do a two-semester combined thesis.

**Overview of Major Requirements (11 total,  
plus 8 technique classes)**

- 1 Movement Science
- 1 Composition
- 1 History
- 1 Writing
- 1 Senior Seminar
- 1 Senior Project (Research in Dance or Repertory for Dance)
- 5 Electives
- 8 Technique Classes

**CONCENTRATION IN DANCE**

The concentration in dance is identical to the major except that only two electives are required.

For the major requirements, please see above.

# DRAMA AND THEATRE ARTS

507 Milbank Hall  
212-854-2080  
212-854-1840 (fax)

The Barnard and Columbia undergraduate theatre program engages the disciplines of drama, theatre, and performance studies as a distinctive mode of intellectual and artistic inquiry. Majors take foundational coursework in the literary, cultural, and embodied traditions of western and nonwestern performance as well as in the practices of acting, directing, design, and playwriting. All majors then specialize in a specific area and undertake advanced thesis work, leading either to a formal essay of original research, or to an artistic project (in acting, design, directing, dramaturgy, playwriting, or solo performance) that combines the practices of research and artistic creation.

While Barnard and Columbia students fulfill the overall graduation requirements of their respective institutions, major requirements for the Barnard Major in Theatre/ Columbia Major in Drama and Theatre Arts are identical, and the majority of required coursework is offered through the Barnard College Department of Theatre. Barnard and Columbia students receive their degrees from their respective colleges of Columbia University.

The Department's season of productions in the Minor Latham Playhouse and the Glicker-Milstein Black Box Theatre is a crucible of investigation: the place where professional directors and designers collaborate with undergraduates, using a wide range of classic and contemporary plays and performance practices to shape insights unique to theatrical inquiry today. Whether it's Shakespeare or Soyinka or Caryl Churchill, or the directing, solo performance, and playwriting theses in the Senior Thesis Festival, Department of Theatre productions are both a learning process and a scene of encounter, where perceptions are shaped for the attention and creative response of a larger public.

Students interested in majoring in Theatre should consider taking three or four of the required classes in your first two years of study: Theatre History I, Theatre History II and/or a course fulfilling the "world theatre" requirement, and at least one class in acting, design, directing, or playwriting (preferably in the area you might choose as areas of specialization). Students thinking about a research focus might consider an additional dramatic literature class early in their studies; students thinking about an acting or design focus, for example, might consider additional classes in those areas in the second or third year of study.

Students declare the major in the spring semester of the sophomore year. The major requirements are spelled out

below, and the process for choosing a thesis area as well: all Theatre/Drama and Theatre Arts majors complete a thesis as a capstone to their work in the degree. For more information about the major, please contact any full-time faculty member (see Faculty pages).

Barnard students must make an appointment or come by the office of the Department Chair to have the major-declaration form signed, and will have a major adviser from the Department faculty; Columbia students are encouraged to meet with members of the faculty to discuss the degree. All majors should introduce themselves to the Theatre Administrator in 507 Milbank Hall: she will add names to the departmental listserv, and help students to keep up to date in important information about studying in the Department.

## STUDENT LEARNING OBJECTIVES

Upon completion of the major, successful students will be able to attain the following objectives:

- Assess critically the artistic ambitions of contemporary theatrical performance, and of literary, critical and theoretical issues involved in the interpretation of dramatic literature and theatrical performance;
- Create with proficiency in at least one area of creative work in the field: critical/research writing, acting, directing, design, playwriting, and dramaturgy.

## Areas of Concentration

### Drama and Theatre Studies Student Learning Objectives

Students successfully completing drama and theatre studies coursework, or concentrating in drama and theatre studies, should be able to attain the following objectives:

1. Write clearly about dramatic literature, and about performance, including where applicable film performance;
2. Synthesize and evaluate contemporary criticism and research scholarship in writing;
3. Know specific authors, movements, periods, styles, and ideological structures in the history of drama, theatre, and performance (i.e., Shakespeare, American drama, Performative Cultures of the Third Reich, Black Theatre);
4. Use critical, theoretical, and historical concepts in the analysis of drama and performance.

### Acting Student Learning Objectives

Students successfully completing a concentration in acting should be able to attain the following objectives:

1. Analyze dramatic texts and apply the analysis to developing a performable role/character;
2. Synthesize external elements with external elements (social mores, environment, historical context, status relationship to others) and internal elements (center



of gravity, personal rhythm, speed, tempo) toward the expression of a character's physicality and emotionality;

3. Recognize and apply the fundamental concepts of character development: objectives, obstacles, actions, given circumstances;
4. Develop vocal, physical and emotional awareness and imagination, and to explore techniques available to aid the actor in applying these elements in a conscious way during rehearsal and performance.

### Design Student Learning Objectives

Students successfully completing a concentration in design should be able to attain the following objectives:

1. Analyze dramatic texts and translate that analysis into documents used in the production process (breakdowns, plots, etc.);
2. Collect images and texts that provide insight into the developing design idea, and accurately communicate historical and stylistic choices;
3. Demonstrate fluency with the craft of a design field – e.g. sketching, model making, drafting, sound and lighting plots, and associated software;
4. Perform collaboratively, adapting and informing their designs with ideas generated through conversation with colleagues, classmates, and advisors.

### Directing Student Learning Objectives

Students successfully completing a concentration in directing should be able to attain the following objectives:

1. Recognize the different demands of different configurations of stage space;
2. Apply compositional tools;
3. Define production style and its influence on performance choices;
4. Communicate effectively with actors;
5. Analyze the historical, social, and aesthetic elements of a dramatic text as the basis for a directorial conception.

### Dramaturgy Student Learning Objectives

Students successfully completing a concentration in dramaturgy should be able to attain the following objectives:

1. Apply important critical and theoretical concepts to the analysis of dramatic writing and theatrical performance;
2. Synthesize and evaluate contemporary research scholarship and apply it to a specific production, including biographical, historical, and interpretive information;
3. Write clearly and effectively about the goals of a production, its critical contexts and purposes;
4. Communicate the critical stakes of a performance to a director and cast; to be able to work with a director in fashioning those stakes;

5. Edit dramatic scripts for production.

### Playwriting Student Learning Objectives

Students successfully completing a concentration in playwriting should be able to attain the following objectives:

1. Create an individual theatrical voice in writing;
2. Construct dramatic and theatrical events onstage;
3. Communicate supportive critique to fellow writers;
4. Interpret plot and story, and to employ language and spectacle creatively;
5. Recognize dramatic structures, and be able to shape and hold an audience's attention.

## FACULTY

**Chair:** W.B. Worthen (Alice Brady Pels Professor in the Arts, Co-Director of Undergraduate Studies, Drama and Theatre Arts)

**Assistant Professors:** Shayoni Mitra, Hana Worthen  
**Assistant Professors of Professional Practice:** Sandra Goldmark, Alice Reagan

**Adjunct Lecturers:** Betsy Adams, Mana Allen, Linda Bartholomai, Andy Bragen, Kyle deCamp, Crystal Finn, Sharon Fogarty, Charise Greene, Rebecca Guy, Tuomas Hiltunen, Stacey McMath, Piia Mustamäki, Fitz Patton, David Paul, Rita Pietropinto, Wendy Waterman

Affiliated Faculty:

**Associate Professor:** Maja Horn (Spanish and Latin American Cultures)

**Senior Lecturers:** Pam Cobrin (English, Director, Writing Program), Patricia Denison (English, Co-Director of Undergraduate Studies, Drama and Theatre Arts)

Other officers of the University offering courses listed below:

**Professors:** Austin E. Quigley, Julie Stone Peters

**Assistant Professor:** Katherine Biers

**Associate Professor of Professional Practice:** Steven Chaikelson

**Theatre Administrator:** Mike Cavalier

**Technical Director:** Greg Winkler

**Production Manager:** Michael Banta

**Costume Shop Manager:** Kara Feely

**Departmental Assistant:**

## REQUIREMENTS

### REQUIREMENTS FOR THE MAJOR

Download the Theatre major self-audit form ([https://theatre.barnard.edu/sites/default/files/inline/selfaudit2012\\_revised\\_12-12-12.doc](https://theatre.barnard.edu/sites/default/files/inline/selfaudit2012_revised_12-12-12.doc))

Students intending to major in Theatre should consult with the Department Chair in their sophomore year or earlier to plan a program: this consultation is required for Barnard students and strongly recommended for Columbia students.

Twelve courses and one senior thesis (in Performance or in Research) are required as follows:

### Dramatic Literature and Theatre History

World theatre and performance histories:

THTR V3150	Western Theatre Traditions: Classic to Romantic and Western Theatre Traditions: Modern	6
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Select one of the following:

THTR V3000	Theatre Traditions in a Global Context	
THTR V3155	Traditional Indian Theatre	
THTR V3156	Modern Asian Performance	

Select one course in drama, theatre, and performance theories: 4

THTR V3165	Theories of Performance Studies	
THTR V3166	Drama, Theatre, and Theory	
ENTA W3701	Drama, Theatre, Theory	

Select one course in Shakespeare

Select two courses in dramatic literature, theatre studies, or performance studies, taken in the Theatre Department or in another department with advisor's approval. One course must be a seminar

### Theatre Practice

Select one of the following courses in theatre design:

THTR V3132	Sound Design	
THTR V3133	Costume Design	
THTR V3134	Lighting Design	
THTR V3135	Scene Design	
THTR V3510	Problems in Design	
THTR V3203	Collaboration: Directing and Design (may be counted it not counted toward directing)	

Select one of the following courses in acting:

THTR V2007	Scene Lab	
THTR V3004	Acting Lab	
THTR V3005	Acting Lab	

Select one of the following courses in directing:

THTR V3200	Directing I	
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THTR V3203	Collaboration: Directing and Design (may be counted if not counted toward Design)	
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### Concentration

All majors must take an additional two courses in the field of the senior thesis: acting, directing, design, dramaturgy, playwriting, or research. See below.

### Senior Thesis

All students must take either THTR V3997 or THTR V3998:

THTR V3997	Senior Thesis: Performance (acting, design, directing, dramaturgy, or playwriting) *	
THTR V3998	Senior Thesis: Research **	

\* Prior to completing the Senior Thesis: Performance, majors must take an additional two courses in the field of the thesis (acting, design, dramaturgy, directing, playwriting). Courses in acting, design, and directing are offered through the Department of Theatre. Courses in playwriting are offered through the Department of Theatre; courses offered through the Barnard Department of English may be taken as well with advisor approval. For theses in Directing, students must take Dramaturgy prior to the thesis year. For theses in Dramaturgy, students take two courses in drama, theatre, or performance research; these courses may be drawn from courses in dramatic literature, theatre studies, and global performance traditions offered in the Theatre department, or from dramatic literature courses offered in other departments with adviser's approval. Dramaturgy concentrators may substitute one course in playwriting for one of these two courses. Students taking a Solo Performance thesis are required to have taken the Solo Performance course prior to the thesis semester (spring), among the three required courses in acting.

\*\* Prior to completing the Senior Thesis: Research, majors must take an additional two courses in drama, theatre, or performance research; these courses may be drawn from courses in dramatic literature, theatre studies, and global performance traditions offered in the Theatre department, or from dramatic literature courses offered in other departments with adviser's approval. These courses should be discussed with the student's major advisor, as well as with the sponsor of the thesis.

### Production Crew

Theatre majors planning on completing a Senior Thesis in Performance (acting, design, directing, dramaturgy, playwriting, solo performance) are required to complete a run crew assignment and a crew head assignment prior to their final semester; to be in the strongest position for the thesis, ideally these assignments are completed during the junior year. Please see the section on Production Crew (<http://>

theatre.barnard.edu/department-and-production-information/  
#productioncrew) for more information.

## Studio Courses

Please note that for Barnard students there is a limit on studio courses. Theatre majors may take 24 studio points in Theatre and an additional six in another discipline for a total of 30 studio points. Theatre Department studio courses are:

THTR V2003 Voice and Speech	2
THTR V2004 Movement for Actors	2
THTR V2005 Acting Workshop	3
THTR V2007 Scene Lab	3
THTR V2120 Technical Production	3
THTR V3004 Acting Lab	3
THTR V3005 Acting Lab	3
THTR V3006 Advanced Acting Lab	3
THTR V3122 Rehearsal and Performance	1-3
THTR V3172 Rehearsal and Performance - Design and Technical	1-3

## Graduate Courses

Only under special circumstances, and with the permission of the instructor, can undergraduates take graduate classes.

# EARTH AND ENVIRONMENTAL SCIENCES

## Departmental Offices:

556-7 Schermerhorn; 212-854-4525;  
106 Geoscience, Lamont-Doherty Earth Observatory;  
845-365-8550  
<http://eesc.columbia.edu>

## Directors of Undergraduate Studies:

Prof. Sidney Hemming, Lamont-Doherty Earth Observatory;  
845-365-8417; [sidney@ldeo.columbia.edu](mailto:sidney@ldeo.columbia.edu) ; 557  
Schermerhorn Extension  
Prof. Maya (Maria) Tolstoy, Lamont-Doherty Earth  
Observatory; 845-365-8791; [tolstoy@ldeo.columbia.edu](mailto:tolstoy@ldeo.columbia.edu) ; 557  
Schermerhorn Extension

**Senior Administrative Manager:** Carol Mountain, 557  
Schermerhorn Extension; 854-9705; 107 Geoscience,  
Lamont-Doherty Earth Observatory; 845-365-8551;  
[carolm@ldeo.columbia.edu](mailto:carolm@ldeo.columbia.edu)

**Business Manager:** Sally Odland, 108 Geoscience,  
Lamont-Doherty Earth Observatory; 845-365-8633;  
[odland@ldeo.columbia.edu](mailto:odland@ldeo.columbia.edu)

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 encourages 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 are 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.

## PROGRAMS OF STUDY

### Environmental Science Major

The environmental science major curriculum provides an introduction to a variety of fields of study relevant to the environment. Environmental science majors are required to take three semesters of introductory courses and to develop a grounding in basic physics, chemistry, biology, and mathematics. Here, students may select courses depending on their 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 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. 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 geology summer field course, arrangements for which are made through another university. The research and senior thesis capstone requirements are the same as for the environmental science major. The geology summer field course may be used as an alternative means of fulfilling the capstone requirement in the earth science major.

### Concentrations

The 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 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.

## 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% 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.

## FACULTY PROFESSORS

- Wallace S. Broecker
- Mark A. Cane
- Nicholas Christie-Blick
- Joel E. Cohen
- Peter B. de Menocal (Vice Chair)
- Hugh Ducklow
- Peter Eisenberger
- Göran Ekström
- Steven L. Goldstein
- Arnold L. Gordon
- Kevin L. Griffin
- Sidney R. Hemming
- Peter B. Kelemen (Chair)
- 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

- Sean C. Solomon
- Marc W. Spiegelman
- Martin Stute (Barnard)
- David Walker

## ASSOCIATE PROFESSORS

- Mark H. Anders
- Sonya Dyhrman
- Arlene M. Fiore
- Bärbel Hönlisch
- Meredith Nettles
- Maria Tolstoy

## ASSISTANT PROFESSORS

- Ryan Abernathey
- Tiffany A. Shaw

## ADJUNCT PROFESSORS

- Robert F. Anderson
- Roger N. Anderson
- W. Roger Buck IV
- James Gaherty
- James Hansen
- John J. Flynn
- Arthur Lerner-Lam
- Douglas G. Martinson
- Ronald L. Miller
- Mark A. Norell
- Dorothy M. Peteet
- Andrew Robertson
- Joerg M. Schaefer
- Christopher Small
- Taro Takahashi
- Minfang Ting
- Felix Waldhauser
- Spahr C. Webb
- Gisela Winckler

## ADJUNCT ASSOCIATE PROFESSORS

- Alessandra Giannini
- Lisa M. Goddard
- Andrew Juhl

## ADJUNCT ASSISTANT PROFESSORS

- Natalie Boelman

## LECTURERS

- James R. Cochran
- Braddock Linsley



- Bradfield Lyon
- Jacek Chowdhary
- Alberto Malinverno
- Hsien Wang Ou
- Maureen Raymo
- Philipp Ruprecht
- Christopher Zappa

## ASSOCIATES

- Anthony Barnston

## REQUIREMENTS

### GUIDELINES FOR ALL EARTH AND ENVIRONMENTAL SCIENCES MAJORS, CONCENTRATORS, AND SPECIAL CONCENTRATORS

#### Advising

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 are different for each major and concentration and must be met 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 departmental office.

#### Substitutions and Exceptions

1. Higher-level courses may be used to satisfy supporting mathematics and science requirements for students with Advanced Placement preparation with the permission of the major adviser.
2. In addition to the courses listed for the depth, and breadth and related courses requirements, several graduate-level courses offered in the department as well as several advanced courses offered at Barnard may be substituted with the permission of the major adviser.
3. 1000-level courses in the Earth and Environmental Sciences Department can not be used toward meeting the requirements of any of the majors, concentrations, or special concentrations.
4. The following courses are not suitable for undergraduates and can not be used toward meeting any of the requirements for the majors, concentrations, or special concentrations:

EESC           Advanced General Geology  
W4001

EESC           Dynamics of Climate Variability and  
W4400           Climate Change

EESC           Quantitative Models of Climate-  
W4401           Sensitive Natural and Human Systems

EESC W4404	Regional Climate and Climate Impacts
EESC W4930	Earth's Oceans and Atmosphere

#### Grading

A grade of C- or better must be obtained for a course to count toward the majors, concentrations, or special concentrations. The grade of P is not acceptable, but a course taken Pass/D/Fail may be counted if and only if the P is uncovered by the Registrar's deadline.

## MAJOR IN EARTH SCIENCE

Please read *Guidelines for all Earth and Environmental Sciences Majors, Concentrators, and Special Concentrators* above.

The major in earth science requires a minimum of 45.5 points, distributed as follows:

#### Foundation Courses

EESC V2200 Earth's Environmental Systems: Solid Earth

EESC V2100 Earth's Environmental Systems: Climate  
or EESC           Earth's Environmental Systems: Life Systems  
V2300

Students who wish to take both EESC V2100 Earth's Environmental Systems: Climate and EESC V2300 Earth's Environmental Systems: Life Systems can include one of these under breadth and related fields below.

#### Supporting Mathematics and Science Courses

MATH           Calculus I  
V1101

or MATH       Calculus II  
V1102

Select one of the following three-course sequences:

CHEM           General Chemistry I (Lecture)  
C1403           and General Chemistry II (Lecture)  
- CHEM       and General Physics  
W1404  
- PHYS  
V1201

CHEM           General Chemistry I (Lecture)  
C1403           and General Physics  
- PHYS       and General Physics  
V1201  
- PHYS  
V1202

## Capstone Experience

Select one of the following:

EESC BC3800 - EESC W3901 Senior Research Seminar and Environmental Science Senior Seminar

EESC BC3801 - EESC W3901 Senior Research Seminar and Environmental Science Senior Seminar

A six to eight week summer geology field course

## Breadth and Related Fields Requirement

A minimum of 6 points (two courses) chosen with the major adviser are required.

Breadth and related field courses are science courses relevant for an earth science major that do not require an earth science background. Several such courses are offered at the 2000-, 3000- and 4000-level in the department and at Barnard. Examples include:

EESC V2100 Earth's Environmental Systems: Climate

EESC V2300 Earth's Environmental Systems: Life Systems

EESC W3010 Field Geology

EESC BC3017 Environmental Data Analysis

EESC W4050 Global Assessment and Monitoring Using Remote Sensing

EESC W4600 Earth Resources and Sustainable Development

EESC W4917 Earth/Human Interactions

EAAE E2002 Alternative energy resources

Also included among breadth and related fields courses are science, mathematics, statistics, and engineering courses offered by other departments that count toward fulfilling degree requirements in those departments.

## Depth Requirement

A minimum of 12 points (four courses) chosen with the major adviser to provide depth in the field of earth science.

These courses build on the foundation and supporting courses listed above and provide a coherent focus in some area of earth science. Students should include at least one of the following in their course of study:

EESC V3101  
or EESC  
V3201

Areas of focus include one of the courses listed above and three or more additional courses. Students are not required to specialize in a focus area, but examples are given below for those who choose to do so.

### Geological Science

EESC W4076 Geologic Mapping

EESC W4090 Introduction to Geochronology and Thermochronology

EESC W4113 Introduction to Mineralogy

EESC W4223 Sedimentary Geology

EESC W4230 Crustal Deformation

EESC W4480 Paleobiology and Earth System History

EESC W4701 Introduction to Igneous Petrology

EESC W4887 Isotope Geology I

EESC W4947 Plate Tectonics

It is strongly recommended that students focusing in geological science take the summer geology field course as their capstone experience.

### Geochemistry

EESC W3015 The Earth's Carbon Cycle

EESC BC3016 Environmental Measurements

EESC BC3200 Ecotoxicology

EESC W4090 Introduction to Geochronology and Thermochronology

EESC W4113 Introduction to Mineralogy

EESC W4701 Introduction to Igneous Petrology

EESC W4885 The Chemistry of Continental Waters

EESC W4887 Isotope Geology I

EESC W4926 Principles of Chemical Oceanography

It is recommended that students focusing in geochemistry take CHEM C1403-CHEM C1404 General Chemistry I and II, and PHYS V1201 General Physics I as their supporting science sequence.

### Atmosphere and Ocean Science

EESC W4008 Introduction to Atmospheric Science

EESC W4924

EESC W4925 Principles of Physical Oceanography

EESC W4926 Principles of Chemical Oceanography

EESC W4920 Paleoceanography

EESC W4937 Cenozoic Paleoceanography

It is recommended that students focusing on atmosphere and ocean science also take a course in fluid dynamics and a course in differential equations.

### Solid Earth Geophysics

EESC W4230 Crustal Deformation

EESC W4300 The Earth's Deep Interior

EESC W4947 Plate Tectonics

EESC W4949 Introduction to Seismology

It is recommended that students focusing in solid earth geophysics take PHYS V1201-PHYS V1202 General Physics I and II, and CHEM C1403 General Chemistry I as their supporting science sequence and also take MATH V1201 Calculus II.

#### Climate

EESC W3015 The Earth's Carbon Cycle

EESC BC3025 Hydrology

EESC W4008 Introduction to Atmospheric Science

EESC W4330 Introduction to Terrestrial Paleoclimate

EESC W4835 Wetlands and Climate Change

EESC W4920 Paleooceanography

EESC W4924

EESC W4925 Principles of Physical Oceanography

EESC W4937 Cenozoic Paleooceanography

#### Paleontology

EESC W4223 Sedimentary Geology

EESC W4480 Paleobiology and Earth System History

EESC W4550 Plant Ecophysiology

EESC W4920 Paleooceanography

EESC W4937 Cenozoic Paleooceanography

It is recommended that students focusing in paleontology take EESC V2300 Earth's Environmental Systems: The Life System, as one of their foundation courses.

EESC W4924 Introduction to Atmospheric Chemistry (Section 1)

## MAJOR IN ENVIRONMENTAL SCIENCE

Please read *Guidelines for all Earth and Environmental Sciences Majors, Concentrators, and Special Concentrators* above.

The major in environmental science requires a minimum of 47 points, distributed as follows:

### Foundation Courses

EESC V2100 Earth's Environmental Systems: Climate

EESC V2200 Earth's Environmental Systems: Solid Earth

EESC V2300 Earth's Environmental Systems: Life Systems

### Supporting Mathematics and Science Courses

MATH V1101 Calculus I

or MATH V1102 Calculus II

Select one of the following three-course sequences:

CHEM C1403 and General Chemistry I (Lecture) and General Chemistry II (Lecture) and General Physics

- CHEM W1404  
- PHYS V1201

CHEM C1403 and General Physics and General Physics

- PHYS V1201  
- PHYS V1202

CHEM C1403 and Environmental Biology I: Elements to Organisms and General Physics

- EEEB W2001  
- PHYS V1201

### Capstone Experience

EESC BC3800 Senior Research Seminar

or EESC BC3801 Senior Research Seminar

EESC W3901 Environmental Science Senior Seminar

### Breadth and Related Fields Requirement

A minimum of 6 points (two courses) chosen with the major adviser are required.

Breadth and related field courses are science courses relevant for an environmental science major that do not require an environmental science background. Several such courses are offered at the 2000-, 3000- and 4000-level in the department and at Barnard. Examples include:

EESC W3010 Field Geology

EESC BC3017 Environmental Data Analysis

EESC W4050 Global Assessment and Monitoring Using Remote Sensing

EESC W4600 Earth Resources and Sustainable Development

EESC W4917 Earth/Human Interactions

Also included among breadth and related fields courses are science, mathematics, statistics, and engineering courses offered by other departments that count toward fulfilling degree requirements in those departments.

## Depth Requirement

A minimum of 9 points (three courses) chosen with the major adviser to provide depth in the field of environmental science.

These courses build on the foundation and supporting courses listed above and provide a coherent focus in some area of environmental science. Students should include at least one of the following in their course of study:

EESC V3101  
or EESC  
V3201

Areas of focus include one of the courses listed above and two or more additional courses. Students are not required to specialize in a focus area, but examples are given below for those who choose to do so.

### Environmental Geology

EESC W4076 Geologic Mapping  
EESC W4480 Paleobiology and Earth System History  
EAEE E3221 Environmental geophysics

It is recommended that students focusing in environmental geology also take EESC W4050 Remote Sensing.

### Environmental Geochemistry

EESC W3015 The Earth's Carbon Cycle  
EESC W4885 The Chemistry of Continental Waters  
EESC W4887 Isotope Geology I  
EESC W4888 Isotope Geology II  
EESC W4924  
EESC W4926 Principles of Chemical Oceanography

### Hydrology

EESC W4076 Geologic Mapping  
EESC W4835 Wetlands and Climate Change  
EESC W4885 The Chemistry of Continental Waters  
EESC BC3025 Hydrology

EAEE E3221 Environmental geophysics

### Climate Change

EESC W3015 The Earth's Carbon Cycle  
EESC W4008 Introduction to Atmospheric Science  
EESC W4330 Introduction to Terrestrial Paleoclimate  
EESC W4480 Paleobiology and Earth System History  
EESC W4835 Wetlands and Climate Change  
EESC W4920 Paleoceanography

It is recommended that students focusing in environmental geology also take EESC W4050 Remote Sensing.

### Energy and Resources

EESC W4076 Geologic Mapping  
EESC W4701 Introduction to Igneous Petrology  
EAEE E2002 Alternative energy resources

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## CONCENTRATION IN EARTH SCIENCE

Please read *Guidelines for all Earth and Environmental Sciences Majors, Concentrators, and Special Concentrators* above.

The concentration in earth science requires a minimum of 25 points, distributed as follows:

### Foundation Courses

EESC V2200 Earth's Environmental Systems: Solid Earth  
EESC V2100 Earth's Environmental Systems: Climate  
or EESC V2300 Earth's Environmental Systems: Life Systems

### Supporting Mathematics and Science Courses

Two science or mathematics courses (6-7 points) selected from among those listed for the earth science major above.

### Depth and Breadth and Related Fields Requirements

A minimum of 10 points (typically three courses) is required as follows:

EESC V3101  
or EESC  
V3201

One additional course chosen from those listed under Depth Requirement for the earth science major above.

The third course selected from those listed under either Depth Requirement or Breadth and Related Fields Requirement for the earth science major above.

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## CONCENTRATION IN ENVIRONMENTAL SCIENCE

Please read *Guidelines for all Earth and Environmental Sciences Majors, Concentrators, and Special Concentrators* above.

The concentration in environmental science requires a minimum of 25.5 points, distributed as follows:

### Foundation Courses

EESC V2200 Earth's Environmental Systems: Solid Earth  
EESC V2100 Earth's Environmental Systems: Climate  
EESC V2300 Earth's Environmental Systems: Life Systems

## Supporting Mathematics and Science Courses

Two science or mathematics courses (6-7 points) selected from among those listed for the environmental science major above.

## Depth and Breadth and Related Fields Requirements

A minimum of 6 points (two courses) is required as follows:

EESC V3101

or EESC

V3201

One additional course selected from those listed under either Depth Requirement or Breadth and Related Fields Requirement for the environmental science major above.

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## SPECIAL CONCENTRATION IN ENVIRONMENTAL SCIENCE FOR MAJORS IN ENVIRONMENTAL BIOLOGY

Please read *Guidelines for all Earth and Environmental Sciences Majors, Concentrators, and Special Concentrators* above.

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.

The special concentration in environmental science requires a minimum of 31.5 points, distributed as follows:

### Introductory Environmental Science (13.5 points)

EESC V2100 Earth's Environmental Systems: Climate

EESC V2200 Earth's Environmental Systems: Solid Earth

EESC V2300 Earth's Environmental Systems: Life Systems

### Introductory Science (6 points)

Two courses in chemistry, physics, mathematics, or environmental biology from the supporting mathematics and science list for the environmental science major above.

### Advanced Environmental Science (12 points)

Four courses at the 3000-level or above chosen from those recommended for the environmental science major above.

Advanced courses used to fulfill requirements in the environmental biology major cannot count toward requirements for the special concentration.

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## SPECIAL CONCENTRATION IN ENVIRONMENTAL BIOLOGY FOR MAJORS IN ENVIRONMENTAL SCIENCE

Please read *Guidelines for all Earth and Environmental Sciences Majors, Concentrators, and Special Concentrators* above.

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.

The special concentration in environmental biology requires a minimum of 39 points, distributed as follows:

### Introductory Environmental Biology and Environmental Science (17 points)

EEEB W2001 Environmental Biology I: Elements to Organisms

EEEB W2002 Environmental Biology II: Organisms to the Biosphere (equivalent to EESC V2300)

EESC V2100 Earth's Environmental Systems: Climate

EESC V2200 Earth's Environmental Systems: Solid Earth

### Introductory Science (13 points)

Select one of the following chemistry sequences:

CHEM C1403 General Chemistry I (Lecture) and General Chemistry II (Lecture)  
- CHEM W1404

CHEM C1604 Second Semester General Chemistry (Intensive)  
- CHEM W2507 and Intensive General Chemistry Laboratory

One term of statistics such as the following:

STAT W1111 Introduction to Statistics (without calculus)

STAT W1211 Introduction to Statistics (with calculus)

BIOL BC2286 Statistics and Research Design

EEEB W3005 Introduction to Statistics for Ecology and Evolutionary Biology

EEEB W3087 Conservation Biology



## **Advanced Environmental Biology (9 points)**

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.

## **Sustainable Development**

Students interested in sustainable development should refer to the *Sustainable Development* section in this Bulletin.

Students interested in sustainable development should refer to the *Sustainable Development* section in this Bulletin.

# EAST ASIAN LANGUAGES AND CULTURES

**Departmental Office:** 407 Kent; 212-854-5027  
ealac.columbia.edu

**Director of Undergraduate Studies:** Prof. Theodore Hughes,  
506 Kent; 212-854-8545; th2150@columbia.edu

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 another point besides the first term of the first 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 first level.

Students who wish to place out of the Columbia College Foreign Language Requirement for a language taught in the department of East Asian Languages and Cultures must consult with the director of the relevant language program. The names of the directors, and additional information about East Asian language programs, can be accessed via the department website at ealac.columbia.edu .

## LANGUAGE LABORATORY

An additional hour of study in the language laboratory is required in first-year, second-year, and third-year Chinese, Japanese, and Korean. These courses include the following:

CHNS C1101 First-Year Chinese I - II (N)  
- CHNS and First-Year Chinese I - II (N)  
C1102

CHNS C1111 First-Year Chinese I and II (W)  
- CHNS and First-Year Chinese I and II (W)  
C1112

CHNS C1201 Second-Year Chinese I and II (N)  
- CHNS and Second-Year Chinese I and II (N)  
C1202

CHNS C1221 Second-Year Chinese I and II (W)  
- CHNS and Second-Year Chinese I and II (W)  
C1222

CHNS W4003 Third-Year Chinese I and II (N)  
and Third-Year Chinese I and II (N)  
- CHNS  
W4004

JPNS C1101 First-Year Japanese  
- JPNS C1102 and First-Year Japanese

JPNS C1201 Second-Year Japanese  
- JPNS C1202 and Second-Year Japanese

JPNS W4005 Third-Year Japanese  
- JPNS and Third-Year Japanese  
W4006

KORN W1101 First-Year Korean I and II  
and First-Year Korean I and II  
- KORN  
W1102

KORN W1201 Second-Year Korean I and II  
and Second-Year Korean I and II  
- KORN  
W1202

KORN W4005 Third-Year Korean I and II  
and Third-Year Korean I and II  
- KORN  
W4006

Students who plan to take any of the courses listed above 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% of the final grade in the course. Assignments of laboratory hours are made during the first session of the regular classes.

## 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 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 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, please consult Robin Leephaibul: rl2705@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% of the graduating majors in the department each year receive departmental honors. Concentrators are not eligible for departmental honors.

## FACULTY

### 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
- Charles Armstrong (History)
- Bernard Faure
- Carol Gluck (History)
- Robert E. Harrist Jr. (Art History)
- Robert Hymes

- Dorothy Ko (Barnard History)
- Gari Ledyard (*emeritus*)
- Feng Li
- Lydia Liu
- Rachel McDermott (Barnard)
- Wei Shang
- Haruo Shirane (Chair)
- Henry Smith (*emeritus*)
- Tomi Suzuki
- Chun-Fang Yu (*emeritus*)
- Madeleine Zelin

## ASSOCIATE PROFESSORS

- Lisbeth Kim Brandt
- Michael Como (Religion)
- Theodore Hughes
- Matthew McKelway (Art History)
- Adam McKeown (History)
- Eugenia Lean
- David Lurie
- David (Max) Moerman (Barnard)
- Gregory Pflugfelder
- Jonathan Reynolds (Art History, Barnard)
- Gray Tuttle

## ASSISTANT PROFESSORS

- Hikari Hori
- Jue Guo (Barnard)
- Jungwon Kim
- Annabella Pitkin (Barnard)
- Ying Qian
- Zhaohua Yang (Religion)

## ADJUNCT FACULTY

- Robert Barnett
- Shi-yan Chao
- Rachel Chung
- Selcuk Esenbel
- Harry Harootunian
- Masato Hasegawa
- Laurel Kendall
- Tuo Li
- Yucai Liu
- Morris Rossabi
- Gopal Sukhu

## SENIOR SCHOLARS

- Mason Gentzler
- Conrad Schirokauer

## SENIOR LECTURERS

- Shigeru Eguchi
- Lening Liu
- Yuan-Yuan Meng
- Fumiko Nazikian
- Miharu Nittono
- Carol Schulz
- Zhirong Wang

## LECTURERS

- Mei-I Chiang
- Lingjun Hu
- James Lap
- Beom Lee
- Xin Li
- Kyoko Loetscher
- Keiko Okamoto
- Jisuk Park
- Shaoyan Qi
- Zhongqi Shi
- Sunhee Song
- Qiuyu Tan
- Naofumi Tatsumi
- Sonam Tsering
- Hailong Wang
- Yoshiko Watanabe
- Chen Wu
- Hanyu Xiao
- Jia Xu
- Ling Yan
- Hyunkyu Yi
- Yuanyuan Zhang

## REQUIREMENTS

### MAJOR IN EAST ASIAN STUDIES

#### Prerequisite

Students must meet the following prerequisite prior to declaring the East Asian Studies major: Two years of Chinese, Japanese, Korean, or Tibetan, or the proficiency equivalent (to be demonstrated by placement examination).

#### Language Requirement

Third-year 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 of Chinese may also complete *W4003N-W4004N* to meet the third year requirement.

One of the following sequences (in the target language):

CHNS W4005 - CHNS W4006	Third-Year Chinese I and II (W) and Third-Year Chinese I and II (W)
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Or, for heritage students:

CHNS W4003 - CHNS W4004	Third-Year Chinese I and II (N) and Third-Year Chinese I and II (N)
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JPNS W4005 - JPNS W4006	Third-Year Japanese and Third-Year Japanese
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KORN W4005 - KORN W4006	Third-Year Korean I and II and Third-Year Korean I and II
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TIBT G4611 - TIBT G4612	Third Year Modern Colloquial Tibetan I and II and Third Year Modern Colloquial Tibetan I and II
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Students who test out of three years or more of a language must take an additional year of that language or another East Asian language at Columbia in order to satisfy the language requirement.

#### Introductory Courses

Students are required to take:

AHUM V3400	Colloquium on Major Texts: East Asia
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Students must also select two of the following:

ASCE V2359	Introduction to East Asian Civilizations: China
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ASCE V2361	Introduction to East Asian Civilization: Japan
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ASCE V2363	Introduction to East Asian Civilizations: Korea
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ASCE V2365	Introduction to East Asian Civilizations: Tibet
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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.

#### 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.

Students intending to study abroad during their junior year should consult with the Director of Undergraduate Studies at the beginning of their sophomore year. Study abroad students should take the appropriate methodology course for their discipline in the spring of their sophomore year.

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:

### History

HSEA W4890	Historiography of East Asia
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Two other courses on East Asia-related historical topics

### Literature

CLEA W4101	Literary and Cultural Theory East and West (in the spring term of the junior year)
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Two other courses on East Asia–related literary topics

### Art History, Philosophy, Religion

An introductory theory or method course from the corresponding department

Two courses on East Asia–related topics in the chosen discipline

### Anthropology, Sociology

EAAS W4102	Critical Approaches to East Asia in the Social Sciences (in the spring term of the junior year)
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Two other courses on East Asia–related topics in the chosen discipline

### Political Science, Economics

EAAS W4102	Critical Approaches to East Asia in the Social Sciences (in the spring term of the junior year)
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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 Program

East Asian Studies majors who wish to write a senior thesis must have at least a 3.6 GPA in East Asian Studies courses

at the end of the junior year. Qualified students who wish to write a Senior Thesis must contact the Director of Undergraduate Studies by May 30 of the year in which they will enter the Senior Thesis Program.

All potential thesis writers are required to enroll in the Senior Thesis Research Workshop (EAAS V3999) in the fall of the senior year. Students who perform satisfactorily in this workshop, successfully complete a thesis proposal, and find a faculty adviser will then write the Senior Thesis itself in the spring semester under the direction of the adviser and a graduate student tutor (EAAS W3901).

Successful completion of the thesis by the early April deadline will be necessary but not sufficient for a student to receive Departmental Honors. Because honors can be awarded to a maximum of 10% of the majors, not all thesis writers will receive honors.

## CONCENTRATION IN EAST ASIAN STUDIES

### Prerequisite

Students must meet the following prerequisite prior to declaring the East Asian Studies concentration: Two years of Chinese, Japanese, Korean, or Tibetan, or the proficiency equivalent (to be demonstrated by placement examination).

### Language Requirement

Third-year 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 of Chinese may also complete *W4003N-W4004N* to meet the third year requirement.

One of the following sequences (in the target language):

CHNS W4005 - CHNS W4006	Third-Year Chinese I and II (W) and Third-Year Chinese I and II (W)
----------------------------------	--

Or, for heritage students:

CHNS W4003 - CHNS W4004	Third-Year Chinese I and II (N) and Third-Year Chinese I and II (N)
----------------------------------	--

JPNS W4005 - JPNS W4006	Third-Year Japanese and Third-Year Japanese
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KORN W4005 - KORN W4006	Third-Year Korean I and II and Third-Year Korean I and II
----------------------------------	--



TIBT G4611 Third Year Modern Colloquial Tibetan I  
 - TIBT G4612 and II  
 and Third Year Modern Colloquial  
 Tibetan I and II

Students who test out of three years or more of a language must take an additional year of that language or another East Asian language at Columbia in order to satisfy the language requirement.

## Introductory Courses

AHUM Colloquium on Major Texts: East Asia  
 V3400

Select one of the following:

ASCE Introduction to East Asian Civilizations:  
 V2359 China

ASCE Introduction to East Asian Civilization:  
 V2361 Japan

ASCE Introduction to East Asian Civilizations:  
 V2363 Korea

ASCE Introduction to East Asian Civilizations:  
 V2365 Tibet

## Electives

Two courses in East Asian Studies at Columbia or Barnard at the *3000-* or *4000-*level, subject to approval by the director of undergraduate studies. Concentrators may count Classical Chinese, Classical Japanese or Classical Tibetan as one of the electives for this requirement.

Concentrators are not eligible for the Senior Thesis Program or for Departmental Honors.

# ECOLOGY, EVOLUTION, AND ENVIRONMENTAL BIOLOGY

**Departmental Office:** 10th Floor Schermerhorn Extension;  
212-854-9987  
<http://www.columbia.edu/cu/e3b/>

**Director of Undergraduate Studies:** Dr. Matthew Palmer,  
1010 Schermerhorn; 212-854-4767; [mp2434@columbia.edu](mailto:mp2434@columbia.edu)

**Evolutionary Biology of the Human Species Adviser:** Dr.  
Jill Shapiro, 1011 Schermerhorn Extension; 212-854-5819;  
[jss19@columbia.edu](mailto:jss19@columbia.edu)

**Academic Department Administrator:** Lourdes A.  
Gautier, 1014B Schermerhorn Extension; 212-854-8665;  
[l\(g2019@columbia.edu\)](mailto:l(g2019@columbia.edu)) [g2019@columbia.edu](mailto:g2019@columbia.edu)  
[lg2019@columbia.edu](mailto:lg2019@columbia.edu)

The **Department of Ecology, Evolution & Environmental Biology (E3B)** at **Columbia University** was established in 2001. Although we are a relatively new department, we have grown rapidly in the past decade. We now have an internationally diverse student body and a broad network of supporters at Columbia and throughout New York City. Our affiliated faculty members come from departments at Columbia as well as from the American Museum of Natural History (<http://www.amnh.org>), the New York Botanical Garden (<http://www.nybg.org>), the Wildlife Conservation Society (<http://www.wcs.org>), and the EcoHealth Alliance (<http://www.ecohealthalliance.org>). Together we provide an unparalleled breadth and depth of research opportunities for our students.

In creating E3B, Columbia University recognized that the fields of ecology, evolutionary 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 methodologies.

E3B's mission is to educate a new generation of scientists and practitioners in the theory and methods of ecology, evolution, and environmental biology. Our educational programs emphasize a multi-disciplinary perspective to understand life on Earth from the level of organisms to global processes that sustain humanity and all life.

To achieve this multi-disciplinary perspective, the department maintains close ties to over 70 faculty members beyond its central core. Thus, many faculty members who teach, advise, and train students in research are based in other departments on the Columbia campus or at the partner institutions. Through this collaboration, the department is able to tap into a broad array of scientific and intellectual resources in the greater New York City area. The academic staff covers

the areas of plant and animal systematics, evolutionary and population genetics, ecosystem science, demography and population biology, behavioral and community ecology, and related fields of epidemiology, ethnobiology, public health, and environmental policy. Harnessing the expertise of this diverse faculty and the institutions of which they are a part, E3B covers a vast area of inquiry into the evolutionary, genetic, and ecological relationships among all living things.

## FACILITIES AND COLLABORATIVE INSTITUTIONS

### The Department of Ecology, Evolution, and Environmental Biology (E3B)

In addition to the off-campus facilities detailed below, 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 Prediction, 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.

### The Earth Institute Center for Environmental Sustainability (EICES)

The Earth Institute Center for Environmental Sustainability (EICES), formerly known as the Center for Environmental Research and Conservation (CERC), is actively involved in protecting biodiversity and ecosystems. The Earth Institute Center for Environmental Sustainability is dedicated to the development of a rich, robust and vibrant world within which we can secure a sustainable future. Through a diverse array of strategic partners in science, education and outreach, the center builds unique programs that promote human well-being through the preservation, restoration, and management of biodiversity and the services our ecosystems provide.

The Center for Environmental Research and Conservation (CERC), a leading provider of cutting-edge environmental

research, education, and training, since its inception in 1994, has grown into two institutions—an Earth Institute center and the Secretariat for a major environmental consortium. The center’s new name is the Earth Institute Center for Environmental Sustainability (EICES, pronounced “i-sees”). EICES also continues, however, as the Secretariat for the Consortium for Environmental Research and Conservation, continuing 15 years of collaborations between the Earth Institute, the American Museum of Natural History, the New York Botanical Garden, The Wildlife Conservation Society, and EcoHealth Alliance on biodiversity conservation.

## 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.

## EcoHealth Alliance

EcoHealth Alliance is an international organization of scientists dedicated to the conservation of biodiversity. For more than 40 years, EcoHealth Alliance has focused its efforts on conservation. Today, they are known for innovative research on the intricate relationships between wildlife, ecosystems and human health.

EcoHealth Alliance's work spans the U.S. and more than 20 countries in Central and South America, the Caribbean, Africa and Asia to research ways for people and wildlife to share bioscapes for their mutual survival. Their strength is built on innovations in research, education, and training and accessibility to international conservation partners.

Internationally, EHA programs support conservationists in over a dozen countries at the local level to save endangered species and their habitats and to protect delicate ecosystems for the benefit of wildlife and humans.

## 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 partner institutions 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.

## FACULTY PROFESSORS

- Walter Bock (Biological Sciences)
- Steve Cohen (International and Public Affairs)
- Marina Cords (also Anthropology)
- Ruth DeFries
- Kevin Griffin (also Earth and Environmental Sciences)
- Paul Hertz (Barnard)
- Ralph Holloway (Anthropology)
- Darcy Kelley (Biological Sciences)
- Don Melnick (also Anthropology and Biological Sciences)
- Brian Morton (Barnard)
- Shahid Naem
- Paul Olsen (Earth and Environmental Sciences)
- Robert Pollack (Biological Sciences)
- Maria Uriarte
- Paige West (Barnard)

## ASSOCIATE PROFESSORS

- Hilary Callahan (Barnard)
- Maria Diuk-Wasser
- Dustin Rubenstein

## ASSISTANT PROFESSORS

- Krista McGuire (also Barnard)
- Duncan Menge

## LECTURERS

- Joshua Drew
- Matthew Palmer

- Jill Shapiro

## ADJUNCT FACULTY/RESEARCH SCIENTISTS

### Columbia University

- Natalie Boelman (Lamont-Doherty)
- Cheryl Palm (Earth Institute Agriculture & Food Security Center)
- Dorothy Peteet (Lamont-Doherty)
- Miguel Pinedo-Vásquez (Center for Environmental Research and Conservation)
- Pedro Antonio Sanchez (Earth Institute Agriculture & Food Security Center)
- William Schuster (Center for Environmental Research and Conservation)

### American Museum of Natural History

- George Amato
- Mary Blair
- Daniel Brumbaugh
- James Carpenter
- Joel Cracraft
- Rob DeSalle
- Eunsoo Kim
- Christopher Raxworthy
- Mark Siddall
- Nancy Simmons
- Brian Smith
- John Sparks
- Eleanor Sterling
- Melanie Stiassny
- Ward Wheeler

### The New York Botanical Garden

- Michael Balick
- Roy Halling
- Charles Peters
- Dennis Stevenson

### Wildlife Conservation Society

- Carter Ingram
- Martin Mendez
- Robert Rose
- Howard Rosenbaum
- Eric Sanderson
- Scott Silver
- Patrick R. Thomas

### Ecohealth Alliance

- Peter Daszak
- Parvies Hosseini
- Kevin Olival
- Melinda Rostal

### Cary Institute of Ecosystem Studies

Joshua Ginsberg

### NYC Audubon

- Susan Elbin

### Woods Hole

- Michael T. Coe

## REQUIREMENTS

### GUIDELINES 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.

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## MAJOR IN ENVIRONMENTAL BIOLOGY

The major in environmental biology requires 50 points, distributed as follows:

### Lower Division Courses

Two terms of introductory or environmental biology such as the following:

EEEE W2001	Environmental Biology I: Elements to
- EEEB	Organisms
W2002	and Environmental Biology II: Organisms
	to the Biosphere

Two terms of environmental science such as the following:

EESC V2100	Earth's Environmental Systems: Climate
EESC V2200	Earth's Environmental Systems: Solid
	Earth

Two terms of chemistry such as the following:

CHEM	General Chemistry I (Lecture)
C1403	and General Chemistry II (Lecture)
- CHEM	
W1404	

One term of physics such as the following:

PHYS V1201	General Physics (or higher)
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One term of statistics such as the following:

STAT W1111	Introduction to Statistics (without
	calculus)



STAT W1211 Introduction to Statistics (with calculus)  
 BIOL BC2286 Statistics and Research Design  
 EEEB W3005 Introduction to Statistics for Ecology and Evolutionary Biology

One term of calculus such as the following:

MATH Calculus I  
 V1101

MATH Calculus II  
 V1102

MATH Calculus III  
 V1201

MATH Calculus IV  
 V1202

## 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- EEEB W3992 Senior Seminar. 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.

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## ECOLOGY AND EVOLUTION TRACK WITHIN THE ENVIRONMENTAL BIOLOGY MAJOR

The ecology and evolution track within the environmental biology major requires 50 points, distributed as follows:

### Lower Division Courses

Two terms of introductory or environmental biology such as the following:

EEEB W2001 Environmental Biology I: Elements to Organisms  
 - EEEB  
 W2002 and Environmental Biology II: Organisms to the Biosphere

Two terms of chemistry such as the following:

CHEM General Chemistry I (Lecture)  
 C1403 and General Chemistry II (Lecture)  
 - CHEM  
 W1404

Chemistry laboratory such as the following:

CHEM General Chemistry Laboratory  
 W1500

Two terms of physics such as the following:

PHYS V1201 General Physics  
 - PHYS and General Physics  
 V1202

One term of statistics such as the following:

STAT W1111 Introduction to Statistics (without calculus)

STAT W1211 Introduction to Statistics (with calculus)

BIOL BC2286 Statistics and Research Design

EEEB W3005 Introduction to Statistics for Ecology and Evolutionary Biology

Two terms of calculus, or one term of calculus and second advanced course in math or statistics such as the following:

MATH Calculus I  
 V1101

MATH Calculus II  
 V1102

MATH Calculus III  
 V1201

MATH Calculus IV  
 V1202

## 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 Genetics or BIOL BC2100 Molecular and Mendelian Genetics 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 - EEEB W3992

Senior Seminar. 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.

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## MAJOR IN EVOLUTIONARY BIOLOGY OF THE HUMAN SPECIES

The major in evolutionary biology of the human species requires 36 points, distributed as described below. Students must take a minimum of 20 points from approved biological anthropology courses.

The additional courses may be taken in other departments with adviser approval. (These include up to 6 points of biology/chemistry or calculus.) Please speak with the major adviser about the extended list of courses from related areas including archaeology; 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.

### Required Courses

EEEE V1010 Human Origins & Evolution

EEEE W1011 Behavioral Biology of the Living Primates

### Conservation Courses

EEEE W3087 Conservation Biology (Alternatively, students may participate in SEE-U in Brazil, Jordan or India in fulfillment of this course requirement.)

EEEE W3240 Challenges and Strategies of Primate Conservation

### Theoretical Foundation from Related Fields

Alternate options may be possible for all courses other than EEEB V1010 Human Origins & Evolution and EEEB W1011 Behavioral Biology of the Living Primates, on an individual basis in consultation with the major/concentration adviser.

Select one course from each subset below:

#### Cultural Anthropology

ANTH V1002 The Interpretation of Culture

ANTH V2004 Introduction to Social and Cultural Theory

ANTH V3040 Anthropological Theory I

ANTH V3041 Anthropological Theory II

#### Archaeology

ANTH V1007 The Origins of Human Society

ANTH V2028 Pasts, Presents & Futures: An Introduction to 21st Century Archaeology

ANTH V3064 Death and the Body

### Breadth Requirement

A minimum of 9 points, four of which may count toward the seminar requirement:

#### Genetics/Human Variation

EEEE W4340 Human Adaptation

EEEE W4700 Race: The Tangled History of a Biological Concept

BIOL W3031 Genetics

BIOL BC2100 Molecular and Mendelian Genetics

ANTH V3970 Biological Basis of Human Variation

#### Primate Behavioral Biology and Ecology

EEEE W3940 Current Controversies in Primate Behavior and Ecology

EEEE W4010 The Evolutionary Basis of Human Behavior

EEEE G4134 Behavioral Ecology

EEEE W3030 The Biology, Systematics, and Evolutionary History of the 'Apes' (if needed)

BIOL BC2280 Animal Behavior

PSYC W2420 Animal Behavior

PSYC W2450 Behavioral Neuroscience

PSYC W3450 Evolution of Intelligence and Consciousness (Seminar)

PSYC W3470 Brain Evolution: Becoming Human (Seminar)

PSYC BC1119 Systems and Behavioral Neuroscience

#### Human Evolution/Morphology

EEEE W3204 Dynamics of Human Evolution

EEEE W3208 Explorations in Primate Anatomy

EEEE W3030 The Biology, Systematics, and Evolutionary History of the 'Apes'

EEEE W3215 Forensic Osteology

EEEE W3220 The Evolution of Human Growth and Development

EEEE W3910 The Neandertals

ANTH G4147 Human Skeletal Biology I

ANTH G4148 Human Skeletal Biology II

ANTH W4200 Fossil Evidence of Human Evolution

BIOL W3002 Introduction to Animal Structure and Function

BIOL W3006 Physiology

BIOL BC2262 Vertebrate Biology

BIOL BC2278 Evolution

Additional courses in student's area of focus to complete the required minimum of 20 points of approved biological anthropology courses.

### Seminar

At least one of the following four-point seminars which may also count toward the breadth requirement.

EEEB W3940 Current Controversies in Primate Behavior and Ecology

EEEB W3204 Dynamics of Human Evolution

EEEB W3910 The Neandertals

EEEB W3993 EBHS Senior Seminar  
- EEEB and EBHS Senior Seminar  
W3994

ANTH V3970 Biological Basis of Human Variation

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 Environmental Biology I: Elements to Organisms) or advanced evolution course, a 2000- or 3000-level genetics course, and a quantitative methods course. Students interested in forensic anthropology should take chemistry in lieu of biology (though the latter is recommended as a foundation course for all students). The adviser makes additional recommendations dependent on the student's area of focus.

## CONCENTRATION IN ENVIRONMENTAL BIOLOGY

The concentration in environmental biology 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 follows:

### Lower Division Courses

Two terms of introductory or environmental biology such as the following:

EEEB W2001 Environmental Biology I: Elements to  
- EEEB Organisms  
W2002 and Environmental Biology II: Organisms  
to the Biosphere (or equivalents)

Two terms of environmental science such as the following:

EESC V2100 Earth's Environmental Systems: Climate  
- EESC V2200 and Earth's Environmental Systems: Solid  
Earth

Two terms of chemistry such as the following:

CHEM General Chemistry I (Lecture)  
C1403 and General Chemistry II (Lecture)  
- CHEM  
W1404

One term of statistics. Select one of the following:

STAT Introduction to Statistics (without  
W1111 calculus)  
STAT Introduction to Statistics (with calculus)  
W1211  
BIOL Statistics and Research Design  
BC2286  
EEEB Introduction to Statistics for Ecology and  
W3005 Evolutionary Biology

### Upper Division Courses

EEEB W3087 Conservation Biology

Two other 3000- or 4000- level courses from the advanced environmental biology courses listed for the major

## CONCENTRATION IN EVOLUTIONARY BIOLOGY OF THE HUMAN SPECIES

The concentration in evolutionary biology of the human species requires 20 points including the required courses EEEB V1010 Human Origins & Evolution, EEEB W1011 Behavioral Biology of the Living Primates, EEEB W3087 Conservation Biology and three courses for the biological anthropology breadth distribution requirements as described for the major. Students must take a minimum of 15 points from 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/archaeology or a seminar though the latter is recommended.

### Approved Biological Anthropology Courses

#### Paleoanthropology and Morphology

EEEB V1010 Human Origins & Evolution  
EEEB W3204 Dynamics of Human Evolution  
EEEB W3208 Explorations in Primate Anatomy  
EEEB W3215 Forensic Osteology  
EEEB W3910 The Neandertals  
ANTH G4147 Human Skeletal Biology I  
- ANTH and Human Skeletal Biology II  
G4148

ANTH G4200 Fossil Evidence of Human Evolution

#### Primate Behavioral Ecology and Evolution

EEEB W1011 Behavioral Biology of the Living Primates

EEEEB W3940	Current Controversies in Primate Behavior and Ecology
EEEEB W3030	The Biology, Systematics, and Evolutionary History of the 'Apes'
EEEEB W4010	The Evolutionary Basis of Human Behavior

**Human Variation**

EEEEB W4340	Human Adaptation
EEEEB W4700	Race: The Tangled History of a Biological Concept
ANTH V3970	Biological Basis of Human Variation

**Additional Courses**

EEEEB W3993	EBHS Senior Seminar
- EEEB W3994	and EBHS Senior Seminar

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## 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.

The special concentration in environmental science requires a minimum of 31.5 points, distributed as follows:

### Introductory Environmental Science (13.5 points)

EESC V2100	Earth's Environmental Systems: Climate
EESC V2200	Earth's Environmental Systems: Solid Earth
EESC V2300	Earth's Environmental Systems: Life Systems

### Introductory Science (6 points)

Two courses in chemistry, physics, mathematics, or environmental biology from the supporting mathematics and science list for the environmental science major.

### Advanced Environmental Science (12 points)

Select four of the following:

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.

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## 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.

The special concentration in environmental biology requires a minimum of 39 points, distributed as follows:

### Introductory Environmental Biology and Environmental Science (17 points)

EEEEB W2001	Environmental Biology I: Elements to Organisms
EEEEB W2002	Environmental Biology II: Organisms to the Biosphere (equivalent to EESC V2300)
EESC V2100	Earth's Environmental Systems: Climate
EESC V2200	Earth's Environmental Systems: Solid Earth

## Introductory Science (13 points)

Select one of the following chemistry sequences:

CHEM C1403  
- CHEM W1404  
General Chemistry I (Lecture)  
and General Chemistry II (Lecture)

CHEM C1604  
- CHEM W2507  
Second Semester General Chemistry  
(Intensive)  
and Intensive General Chemistry  
Laboratory

One term of statistics such as the following:

STAT W1111  
Introduction to Statistics (without  
calculus)

STAT W1211  
Introduction to Statistics (with calculus)

BIOL BC2286  
Statistics and Research Design

EEEB W3005  
Introduction to Statistics for Ecology and  
Evolutionary Biology

EEEB W3087 Conservation Biology

## Advanced Environmental Biology (9 points)

Three additional advanced environmental biology courses (3000-level and above), each chosen from a different curricular area (evolution/genetics, ecology/behavior/conservation, anatomy/physiology/diversity, biology laboratory courses).



# ECONOMICS

**Departmental Office:** 1022 International Affairs Building;  
212-854-3680  
<http://www.columbia.edu/cu/economics/>

**Director of Undergraduate Studies:** Dr. Susan Elmes,  
1006 International Affairs Building; 212-854-9124;  
[se5@columbia.edu](mailto:se5@columbia.edu)

**Director of Departmental Honors Program:** Dr. Susan Elmes,  
1006 International Affairs Building; 212-854-9124;  
[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 departmental website (<http://www.columbia.edu/cu/economics/>).

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 Principles of Economics*.

## ADVISING

The Department of Economics offers a variety of advising resources to provide prospective and current undergraduate majors and concentrators with the information and support needed to successfully navigate through the program. These resources are described below.

## Frequently Asked Questions

Please see: <http://econ.columbia.edu/frequently-asked-questions-0>

As a first step, students are encouraged to visit the department's FAQ page, which provides comprehensive information and answers to the most frequently asked questions about the department majors and requirements. This page also includes a section that answers specific questions of first-years, sophomores, and non-majors.

## Graduate Student Advisers

For answers to the most common questions that students have about the major, the department has graduate student advisers, who are available by email at [econ-advising@columbia.edu](mailto:econ-advising@columbia.edu), or during weekly office hours to meet with students.

Students should direct all questions and concerns about their major to the graduate student advisers either in person or via email. The graduate student advisers can discuss major requirements, scheduling, and major course selection, as well as review student checklists and discuss progress in the major. Occasionally, graduate student advisers may refer a student to someone else in the department (such as the director of undergraduate studies) or in the student's school for additional advising.

Contact information and office hours for the graduate student advisers are posted on the *Advisers* page of the departmental website (<http://www.columbia.edu/cu/economics/>) in the week prior to the beginning of the semester. Students considering one of the interdepartmental majors should speak to both a graduate student adviser from the Economics Department and the adviser from the other department early in the sophomore year.

## Faculty Advisers

Faculty advisers are available to discuss students' academic and career goals, both in terms of the undergraduate career and post-graduate degrees and research. Students wishing to discuss these types of substantive topics may request a faculty adviser by completing the form available on the *Advisers* page of the departmental website (<http://www.columbia.edu/cu/economics/>) and depositing it in the mailbox of the director of undergraduate studies in the department's main office, 1022 International Affairs Building.

The department does its best to match students with faculty members that share similar academic interests. While faculty advisers do not discuss major requirements—that is the role of the graduate student advisers—they do provide guidance in course selection as it relates to meeting a student's intellectual goals and interests, as well as advise on career and research options. It is recommended that students who plan on attending a Ph.D. program in economics or are interested in

pursuing economics research after graduation, request a faculty adviser.

## 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 Senior Honors Thesis (a one-year course)
3. Receive at least a grade of A- in ECON W4999 Senior Honors Thesis.

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 Senior Honors Thesis 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 (ECON W4999 Senior Honors Thesis) must have completed the core major requirements and speak with the director of undergraduate studies in the spring semester of their junior year. Normally no more than 10% of the graduating majors in the department each year may receive departmental honors. 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.

### The Dean's Prize in Economics

Awarded to General Studies students for excellence in the study of Economics.

### 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 useful information on-line, including: 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.

## FACULTY 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
- Donald Davis
- Padma Desai (*emeritus*)
- Prajit Dutta
- Glenn Hubbard (also Business School)
- Navin Kartik
- Wojciech Kopczuk (also School of International and Public Affairs)
- W. Bentley McLeod (also School of International and Public Affairs)
- Perry Mehrling (Barnard)
- Massimo Morelli (also Political Science)
- Robert Mundell
- Serena Ng
- Brendan O'Flaherty
- Edmund S. Phelps
- Ricardo Reis
- Michael Riordan
- Jeffrey Sachs (also Earth Institute)
- Xavier Sala-i-Martin
- Bernard Salanié
- José A. Scheinkman
- Stephanie Schmitt-Grohé
- Rajiv Sethi (Barnard)
- Joseph Stiglitz (also Business School)
- Martín Uribe
- Miguel Urquiola (also School of International and Public Affairs)
- David Weiman (Barnard)
- David Weinstein (Chair)
- Michael Woodford

## ASSOCIATE PROFESSORS

- Douglas Almond (also School of International and Public Affairs)

- Lena Edlund
- Katherine Ho
- Emi Nakamura (also Business School)
- Jon Steinsson
- Eric Verhoogen (also School of International and Public Affairs)
- Jonathan Vogel

## ASSISTANT PROFESSORS

- Christopher Conlon
- Francois Gerard
- Supreet Kaur
- Jennifer La'O
- Qingmin Liu
- Suresh Naidu
- Jaromir Nosal  
Pietro Ortoleva
- Miikka Rokkanan
- Christoph Rothe

## LECTURERS

- Seyhan Arkonac
- Tri Vi Dang
- Sally Davidson
- Susan Elmes
- Sunil Gulati
- Caterina Musatti

## ADJUNCT FACULTY

- Edward Lincoln
- Emanuel Moench
- Steven Olley
- Carl Riskin

## ON LEAVE

- Profs. Ho, Vogel (*2014-2015*)
- Profs. Che, Nakamura (*Fall 2014*)
- Prof. Nosal (*Spring 2015*)

## REQUIREMENTS

### GUIDELINES FOR ALL ECONOMICS MAJORS, CONCENTRATORS, AND INTERDEPARTMENTAL MAJORS

#### 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 the department's director of undergraduate studies.* Unless otherwise specified below all students must complete the following core courses:

ECON W1105	Principles of Economics
ECON W3211	Intermediate Microeconomics (it is recommended that this course be completed no later than the fall semester of the junior year)
ECON W3213	Intermediate Macroeconomics (it is recommended that this course be completed no later than the fall semester of the junior year)
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 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 the department's director of undergraduate studies. Credits from a course taken *prior* to the completion of its prerequisites are **not** counted towards the major requirements. As a consequence, students are required to complete **additional**, specific courses in economics at the direction of the director of undergraduate studies.

The prerequisites for required courses are as follows:

Course	Prerequisites
ECON W1105 Principles of Economics	None
MATH V1101 Calculus I	
STAT W1211 Introduction to Statistics (with calculus)	MATH V1101 Calculus I
ECON W3213 Intermediate Macroeconomics	MATH V1101 Calculus I ECON W1105 Principles of Economics
ECON W3211 Intermediate Microeconomics	MATH V1201 Calculus III ECON W1105 Principles of Economics
ECON W3412 Introduction To Econometrics	MATH V1201 Calculus III STAT W1211 Introduction to Statistics (with calculus) ECON W3211 Intermediate Microeconomics or W3213
ECON 2000-level electives	ECON W1105 Principles of Economics

ECON W4370 Political Economy	ECON W3211 Intermediate Microeconomics ECON W3213 Intermediate Macroeconomics STAT W1211 Introduction to Statistics (with calculus) or POLS W4910	ECPS W4921 Seminar In Political Economy	ECON W3211 Intermediate Microeconomics ECON W3213 Intermediate Macroeconomics ECON W3412 Introduction To Econometrics or POLS W4911 ECON W4370 Political Economy
ECON W4211 Advanced Microeconomics	ECON W3211 Intermediate Microeconomics ECON W3213 Intermediate Macroeconomics Corequisites: MATH V2500 Analysis and Optimization or W4061 MATH V2010 Linear Algebra	ECPH W4950 Economics and Philosophy Seminar	ECON W3211 Intermediate Microeconomics ECON W3213 Intermediate Macroeconomics STAT W1211 Introduction to Statistics (with calculus)
ECON W4213 Advanced Macroeconomics ECON W4412 Advanced Econometrics	ECON W3211 Intermediate Microeconomics ECON W3213 Intermediate Macroeconomics ECON W3412 Introduction To Econometrics MATH V2010 Linear Algebra	Barnard electives	See Barnard bulletin
ECON W4413 Econometrics of Time Series and Forecasting	ECON W3211 Intermediate Microeconomics ECON W3412 Introduction To Econometrics Co-requisite: MATH V2010 Linear Algebra ECON W3213 Intermediate Macroeconomics		
ECON W4280 Corporate Finance ECON W4020 Economics of Uncertainty and Information ECON V3025 Financial Economics ECON W4700 Financial Crises All other ECON 3000- and 4000-level electives	ECON W3211 Intermediate Microeconomics ECON W3213 Intermediate Macroeconomics STAT W1211 Introduction to Statistics (with calculus)		
ECON W4911 Seminar In Microeconomics ECON W4913 Seminar In Macroeconomics ECON W4918 Seminar In Econometrics	ECON W3211 Intermediate Microeconomics ECON W3213 Intermediate Macroeconomics ECON W3412 Introduction To Econometrics		

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 receive a grade of D or F in a core course are permitted to take a higher-level elective course that has that core course as a prerequisite, so long as it is taken concurrently with the retaking of that core course. For example, if a student fails ECON W3211 Intermediate Microeconomics, the student 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. The same rule applies to the required math and statistics courses. For example, if a student fails *MATH V1201 Calculus III*, the student may retake calculus III concurrently with Intermediate microeconomics. Students who must retake any core economics or math course may not retake it concurrently with a senior seminar; the economics core courses, *ECON W3211 Intermediate Microeconomics*, *ECON W3213 Intermediate Macroeconomics*, and *ECON W3412 Introduction To Econometrics* must be successfully completed before a student may enroll in a seminar.

A grade of W is not equivalent to a grade of D or F; it does not qualify a student to retake the course concurrently with a higher level course that lists the course as a prerequisite. Students who receive a grade of W in a core course must complete the course with a grade of C- or better before taking a course that lists it as a prerequisite.

Only ECON W1105 Principles of Economics may be taken for a grade of Pass/D/Fail, and the student must receive a

grade of P for it to count towards the requirements for the major, concentration, or interdepartmental majors.

## 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 ECON W3211 Intermediate Microeconomics and ECON W3213 Intermediate Macroeconomics as prerequisites. However, some electives have additional prerequisites and students should ensure that all prerequisites have been completed (see the table of prerequisites printed above). *Seminars do not count as electives.*

## Seminars

Seminars can be taken only after all of the required core courses in economics have been completed. ECON W3412 Introduction To Econometrics may not be taken or retaken concurrently with a senior seminar. *Seminars do not count as electives.* Each seminar is limited to sixteen students, with priority given to seniors. For ECPS W4921 Seminar In Political Economy and ECON W4950 Economics and Philosophy Seminar, priority is given to economics-political science and economics-philosophy majors, respectively.

For seminar registration details, read the information posted on the department's *Senior Seminar Sign-up* page: <http://econ.columbia.edu/senior-seminars-sign>.

## Mathematics

Students must consult with the Mathematics Department for the appropriate placement in the calculus sequence. Students must complete one of the following sequences:

Select one of the following sequences:

MATH V1101 - MATH V1201	Calculus I and Calculus III
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MATH V1207 - MATH V1208	Honors Mathematics A and Honors Mathematics B
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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.
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 Introduction to Statistical Inference.

## Barnard Courses

A limited number of Barnard economics electives may count toward the major, concentration, and interdepartmental majors. Students should pay careful attention to the limit of Barnard electives indicated in their program requirements. Please see the *Transfer Credit* section below for 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:

ECON BC3029 - ECON W4321	Development Economics and Economic Development
ECON BC3038 - ECON W4505	International Money and Finance and International Monetary Theory and Policy
ECON BC3019 - ECON W4400	Labor Economics and Labor Economics
ECON BC3047 - ECON W4500	International Trade and International Trade
ECON BC3039 - ECON W4625	Environmental and Natural Resource Economics and Economics of the Environment
ECON BC3041 - ECON G4235	Theoretical Foundations of Political Economy and Historical Foundations of Modern Economics: Adam Smith to J.M. Keynes

Students should always first consult with *econ-advising* to confirm that the Barnard elective they wish to take does not overlap with a Columbia elective that they have already taken or plan to take. Students may *not* take the Barnard core economics, math, statistics, or seminar courses for credit towards the completion of major requirements.



## Continuing Education Courses

The Department of Economics does not accept *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.

## Other Department and School Courses

Please note that with the exception of the above Barnard courses and the specific courses listed below for the financial economics major, no other courses offered through the different departments and schools at Columbia count toward the economics majors or concentration.

## Transfer Credits

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 who declared prior to spring 2014 and economics concentration must complete a minimum of four lecture courses. Students in the economics-philosophy major who declare in or after spring 2014 are required to take a minimum of five lecture courses. Students may fulfill their remaining requirements for economics lecture courses through AP (or IB or GCE) 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 (declared prior to Spring 2014)	6	5	1

Economics-statistics (declared in Spring 2014 and beyond)	7	5	2
Economics-philosophy (declared prior to Spring 2014)	5	4	1
Economics-philosophy (declared in Spring 2014 and beyond)	7	5	2
Economics concentration	7	4	3

- 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.
- 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 Financial Economics and ECON V3265 The Economics of Money and Banking are counted as departmental courses regardless of the instructor.
- Outside courses** include AP (or IB or GCE) credits, transfer credits, Barnard *2000*- and *3000*-level elective courses and transfer credits from other universities. In the case where two or more courses taken outside of Columbia are used as the equivalent of ECON W1105 Principles of Economics, those courses are counted as one transfer course.

**Approval of transfer credits** to fulfill economics requirements must be obtained in writing from the Department of Economics (see the departmental website (<http://www.columbia.edu/cu/economics>) or speak with your 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 at Columbia University do not need approval.

Instructions on how to request transfer credit approval can be found in the *Transfer Credit Information* page of the departmental website (<http://www.columbia.edu/cu/economics>).

## MAJOR IN ECONOMICS

Please read *Guidelines for all for Economics Majors, Concentrators, and Interdepartmental Majors* (p. 221) 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:

### Economics Core Courses

All economics core courses

### Mathematics

Select a mathematics sequence

### Statistics

Select a statistics course

### Economics Electives

Select at least five electives, of which no more than one may be taken at the 2000-level (including Barnard courses)

### Economics Seminar

Select one economics seminar course

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## CONCENTRATION IN ECONOMICS

Please read *Guidelines for all for Economics Majors, Concentrators, and Interdepartmental Majors* (p. 221) 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:

### Economics Core Courses

All economics core courses

### Mathematics

Select a mathematics sequence

### Statistics

Select a statistics course

### Economics Electives

Select at least three electives, of which no more than one may be taken at the 2000-level (including Barnard courses)

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## MAJOR IN FINANCIAL ECONOMICS

Please read *Guidelines for all for Economics Majors, Concentrators, and Interdepartmental Majors* (p. 221) above.

The Department of Economics, in collaboration with the Business School, offers the major in financial economics, which provides an academic framework 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:

### Economics Core Courses

All economics core courses

### Finance Core Courses <sup>1</sup>

ECON V3025 Financial Economics

ECON W4280 Corporate Finance

BUSI W3013 Financial Accounting

or IEOR E2261 Introduction to Accounting and Finance

\*NOTE: The department considers BUSI W3013 and IEOR E2261 as overlapping courses. Students who take both courses shall be credited with one course only. Financial economics majors who are also in the Business Management concentration program (CNBUMG) must take an additional elective from either the financial economics prescribed elective list (below) or from the CNBUMB prescribed list.

### Mathematics

Select a mathematics sequence

### Statistics

Select a statistics course

### Electives

Select four of the following, of which two must be from the Columbia or Barnard economics departments, or equivalent economics transfer credits:

ECON V3265 The 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 ECON BC3038 International Money and Finance

ECON G4526 Transition Reforms, Globalization and Financial Crisis

ECON W4700	Financial Crises
ECON BC3014	Entrepreneurship
ECON BC3017	Economics of Business Organization
BIOT W4180	Entrepreneurship in Biotechnology
BUSI W3021	Marketing Management
BUSI W3701	Strategy Formulation
BUSI W3703	Leadership in Organizations
HIST W3904	History of Finance
IEOR E3106	Introduction to Operations Research: Stochastic Models
IEOR E4700	Introduction to Financial Engineering
MATH V3050	Discrete Time Models in Finance
MATH W4071	Introduction to the Mathematics of Finance
POLS W3630	Politics of International Economic Relations
STAT W4290	Statistical Methods in Finance
STAT W4635	Stochastic Processes for Finance
STAT W4840	Theory of Interest

**Seminar**

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 website

Students must have completed at least one of ECON V3025 or ECON W4280 prior to taking their senior seminar.

<sup>1</sup> Students must complete the finance core no later than fall of their senior year.

## MAJOR IN ECONOMICS- MATHEMATICS

Please read *Guidelines for all for Economics Majors, Concentrators, and Interdepartmental Majors* (p. 221) above.

The major in economics and mathematics provides students with a grounding in economic theory comparable to that provided by the general economics major and exposes students

to rigorous and extensive training in mathematics. The program is recommended for any student planning to do graduate work in economics.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Mathematics has an assigned adviser with whom students may consult on mathematics requirements. The economics adviser can only advise on economics requirements; the mathematics adviser can only advise on 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:

**Economics Core Courses**

All economics core courses

**Economics Electives**

Select three electives at the 3000-level or above

**Mathematics**

Select one of the following sequences:

MATH      Calculus I  
V1101      and Calculus II  
- MATH      and Calculus III  
V1102      and Linear Algebra

- MATH  
V1201  
- MATH  
V2010

MATH      Honors Mathematics A  
V1207      and Honors Mathematics B  
- MATH  
V1208

MATH      Analysis and Optimization  
V2500

Select three of the following:

MATH  
E1210

MATH      Calculus IV  
V1202

Any mathematics course at the 3000-level or above

**Statistics**

Select one of the following:

SIEO      Introduction to Probability and Statistics  
W4150

STAT      Introduction to Probability  
W3105      and Introduction to Statistical Inference  
- STAT  
W3107

STAT      Introduction to Probability  
W4105      and Introduction to Statistical Inference  
- STAT  
W4107

**Economics Seminar**

Select an economics seminar

NOTE: (1) Students who fulfill the statistics requirement with STAT W3105 and STAT W3107, or with STAT W4105 and STAT W4107, may count STAT W3105 or STAT W4105 as one of the three required mathematics electives. (2) Students who choose either of the one year sequence (STAT W3105/ STAT W3107 or STAT W4105/ STAT W4107), must complete the year long sequence *prior* to taking ECON W3412. Students receive elective credit for the probability course.

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## MAJOR IN ECONOMICS- PHILOSOPHY

Please read *Guidelines for all for Economics Majors, Concentrators, and Interdepartmental Majors* (p. 221) above.

Economics-philosophy is an interdisciplinary major that introduces students to basic methodologies of economics and philosophy and stresses areas of particular concern to both, e.g. rationality and decision making, justice and efficiency, freedom and collective choice, logic of empirical theories and testing. Many issues are dealt with historically. Classic texts of Plato, Kant, Mill, Marx, and Smith are reviewed.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Philosophy has an assigned adviser with whom students may consult on philosophy requirements. The economics adviser can only advise on economics requirements; the philosophy adviser can only advise on philosophy requirements.

### Students who declared prior to Spring 2014:

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:

**Economics Core Courses**

ECON W1105 Principles of Economics

ECON W3211 Intermediate Microeconomics

ECON W3213 Intermediate Macroeconomics

**Mathematics**

Select a mathematics sequence

**Statistics**

Select a statistics course

**Economics Electives**

Select 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 Historical Foundations of Modern Economics: Adam Smith to J.M. Keynes  
or ECON BC3041 Theoretical Foundations of Political Economy

ECON W4230 Economics of New York City

ECON G4301 Economic Growth and Development

ECON W4321 Economic Development

ECON W4370 Political Economy

ECON W4400 Labor Economics

or ECON BC3019 Labor Economics

ECON W4415 Game Theory

ECON W4438 Economics of Race in the U.S.

ECON W4465 Public Economics

ECON W4480 Gender and Applied Economics

ECON W4500 International Trade

or ECON BC3047 International Trade

ECON W4615 Law and Economics

ECON W4625 Economics of the Environment

or ECON BC3039 Environmental and Natural Resource Economics

ECON W4750 Globalization and Its Risks

ECON BC3011 Inequality and Poverty

**Philosophy Courses**

PHIL C1010 Methods and Problems of Philosophical Thought

PHIL V3411 Symbolic Logic

PHIL V3701 Ethics (or another adviser-approved course in moral or political philosophy)

PHIL V3551 Philosophy of Science  
or PHIL W3960 Epistemology

PHIL G4561 Probability and Decision Theory  
or PHIL G4565 Rational Choice

#### Seminar

ECPH W4950 Economics and Philosophy Seminar (or another seminar in philosophy or economics approved by advisers in both department)

## Students who declare in Spring 2014 and beyond:

In addition to the above requirements, students are required to take:

1. ECON W3412 Introduction To Econometrics
2. A third economics elective; two of the three electives must be from the prescribed list above, and the remaining economics elective may be *any* elective at the 3000-level or above.

## MAJOR IN ECONOMICS–POLITICAL SCIENCE

Please read *Guidelines for all for Economics Majors, Concentrators, and Interdepartmental Majors* (p. 221) 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.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Political Science has an assigned adviser with whom students may consult on political science requirements. The economics adviser can only advise on economics requirements; the political science adviser can only advise on political science requirements.

## Students who declared prior to Spring 2014:

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, i.e. subfields: (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 subfield and one as a minor subfield. The corresponding introductory courses in both subfields must be taken, plus two electives in the major subfield, and one in the minor subfield.

#### Economics Core Courses

ECON W1105 Principles of Economics

ECON W3211 Intermediate Microeconomics

ECON W3213 Intermediate Macroeconomics

ECON W4370 Political Economy

#### Mathematics

Select a mathematics sequence

#### Statistical Methods

Select one of the following:

ECON W3412 Introduction To Econometrics (and one of the statistics courses listed under Guidelines for all Economics Majors, Concentrators, and Interdepartmental Major)

POLS W4911 Analysis of Political Data (and one of the statistics course listed under Guidelines for all Economics Majors, Concentrators, and Interdepartmental Majors)

POLS W4911 - POLS W4910 Analysis of Political Data and Principles of Quantitative Political Research

#### Economics Electives

Select two electives (6 points) at the 3000-level or above

#### Political Science Courses

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) - including the introductory course in another subfield, coordinated with the economics electives and approved by the adviser

#### Seminars

A Political Science Department seminar, to be approved in advance by the adviser, in the major subfield

ECPH W4921 Seminar In Political Economy

NOTE: POLS W4910 Principles of Quantitative Political Research is not equivalent to STAT W1211 Introduction to Statistics (with calculus) and as such cannot be used to fulfill the prerequisite requirements of courses that require



STAT W1211 Introduction to Statistics (with calculus), such as ECON W3412 Introduction To Econometrics, ECON V3025 Financial Economics, ECON W4280 Corporate Finance and ECON W4020 Economics of Uncertainty and Information.

### Students who declare in Spring 2014 and beyond:

In addition to the above requirements, students are required to take STAT W1211 Introduction to Statistics (with calculus) to satisfy the statistics requirement. POLS W4910 Principles of Quantitative Political Research will no longer be an accepted alternative course for the statistics requirement. Students will still have the option to take ECON W3412 Introduction To Econometrics or POLS W4911 Analysis of Political Data to complete the statistical methods requirement.

## MAJOR IN ECONOMICS-STATISTICS

Please read *Guidelines for all for Economics Majors, Concentrators, and Interdepartmental Majors* (p. 221) above.

The major in economics-statistics provides students with a grounding in economic theory comparable to that provided by the general economics major, but also 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 contemplating graduate studies in economics.

The Department of Economics has graduate student advisers with whom students may consult on economics requirements. The Department of Statistics has an assigned adviser with whom students may consult on statistics requirements. The economics adviser can only advise on economics requirements; the statistics adviser can only advise on statistics requirements.

### Students who declared prior to Spring 2014:

The economics-statistics major requires a total of 53 points: 23 in economics, 15 points in statistics, 12 points in mathematics, 3 points in computer science as follows:

#### Economics Core Courses

All economics core courses

#### Economics Electives

Select two electives at the 3000-level or above

#### Mathematics

Select one of the following sequences:

MATH      Calculus I  
V1101      and Calculus II  
- MATH      and Calculus III  
V1102      and Linear Algebra  
- MATH  
V1201  
- MATH  
V2010

MATH      Honors Mathematics A  
V1207      and Honors Mathematics B  
- MATH  
V1208

#### Statistics

STAT W1211 Introduction to Statistics (with calculus)

STAT W3105 Introduction to Probability

STAT W3107 Introduction to Statistical Inference

STAT W4315 Linear Regression Models

One elective (excluding STAT W1001 , STAT W1111 , STAT W2110 and SIEO W4150)

#### Computer Science

Select one of the following:

COMS      Introduction to Computer Science and  
W1004      Programming in Java

COMS      Introduction to Computer Science and  
W1005      Programming in MATLAB

COMS      Honors Introduction to Computer Science  
W1007

#### Economics Seminar

ECON      Seminar In Econometrics  
W4918

### Students who declare in Spring 2014 and beyond:

In addition to the above requirements, students are required to take:

1. A third elective in Economics at the 3000-level or above (bringing the total to three electives).

# EDUCATION

335-336 Milbank Hall  
212-854-7072

education.barnard.edu (<http://education.barnard.edu>)  
Department Assistant: Myles Nugent

The Barnard Education Program is committed to strengthening public education and addressing issues of equity and social justice, particularly in urban schools. We offer two tracks in Education: Urban Teaching and Educational Studies. In both tracks students develop a critical lens for looking at the issues facing public schooling and consider ways to promote fair and inclusive policies and practices for all children in our public system. The program is open to all undergraduates at Columbia (BC, SEAS, GS, CC) who are interested in becoming certified teachers, working with young people in human service agencies, or preparing for careers related to education.

**Urban Teaching Track:** Our goal 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. Students learn to create innovative curriculum, gain experience observing, tutoring and teaching a diverse range of children and young people, develop confidence in their role as teachers who can promote fair and inclusive school practices, and graduate with certification to teach in New York. (Note: we are part of an interstate agreement for reciprocal certification with 41 other states.)

This program is registered by the New York State Department of Education and accredited by the Teacher Education Accreditation Council (TEAC). This track prepares students to obtain a teaching position as a certified teacher upon graduation and/or to pursue graduate studies in education, public policy, sociology, youth studies, and other related fields.

**Educational Studies Track:** This track prepares students to pursue graduate studies or positions in public policy, sociology, history, youth studies, philosophy, psychology and other areas where K-12 education is frequently a focus of coursework and scholarship. Students learn to think deeply and knowledgeably about the manner in which schools socialize as well as educate citizens, and examine how the interests of different stakeholders are privileged or neglected. The courses are linked by a focus on educational inequality and youth studies. Courses connect theory and practice through placements in public schools, district offices, and agencies that work with children and youth in other than teaching capacities. This track does not lead to certification.

Both tracks are special concentrations and are intended to complement a major's disciplinary specialization and methodological training. In addition to the requirements of

either special concentration, students must complete a major or a full concentration.

## Student Learning Outcomes

1. **Knowledge of Self:** Students investigate how educational experiences in and out of school affect their vision for teaching and learning, use that knowledge to reflect upon and critique their practice, and set goals for continuing growth as equitable, multicultural educators.
2. **Knowledge of Students:** Students understand the importance of getting to know the children and youth in their classrooms; develop specific strategies that aid in understanding students' needs, capacities, interests, funds of knowledge, and social identities; and construct learning experiences that are responsive and relevant to their students.
3. **Knowledge of Content:** Students develop knowledge and skills to critique the social, political, cultural, and historical forces that construct traditional content knowledge and design academic content that is dynamic, inquiry-based, and encompasses multiple literacies, and cultural perspectives.
4. **Knowledge of Pedagogy:** Students experience, practice, evaluate, and reflect on a range of constructivist, inclusive, critical, collaborative, and authentic methods for engaging students in learning and in assessing learning outcomes
5. **Knowledge of Context:** Students investigate the complex ways in which social, political, cultural, and historical forces shape school contexts, including students' opportunities in schools, teacher empowerment, effective leadership, roles of parents and the community, and patterns of similarity and difference across schools.

The Education Program is accredited by Teacher Education Accreditation Council (TEAC) 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, visit our website (<http://education.barnard.edu/program-education>) . Students are encouraged to apply for admission by March of 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 by December of the sophomore year and take the Methods and Practicum courses in the spring of sophomore year. Admission criteria include good academic standing; evidence of commitment to the field of education; interest in issues of social justice issues as they affect education, particularly in urban schools; and capacity for growth as an intellectually resourceful and reflective teacher. Enrollment is limited.

## FACULTY

**Professor:** Lee Anne Bell (The Barbara Silver Horowitz Director of Education) - on leave 2014-2015

**Senior Lecturer:** Linda Cole-Taylor (Visiting Director)

**Assistant Professor:** Maria Rivera Maulucci

**Associate:** Daniela Kempf

**Lecturer:** Lisa Edstrom

**Advisory Committee on Education:** Peter Balsam (Professor, Psychology), Lesley Sharp (Ann Whitney Olin Associate Professor, Anthropology), Herbert Sloan (Professor, History), Kathryn Yatrakis (Dean of Academic Affairs, Columbia College)

## REQUIREMENTS

### REQUIREMENTS FOR THE URBAN TEACHING TRACK

#### Childhood Education Urban Teaching Program (To Teach Grades 1-6)

This program leads to New York State Initial Certification in Childhood Education (Grades 1-6). In addition to the liberal arts major, students must complete a total of 26-28 credits as follows:

##### Pedagogical Core (Education Program)

EDUC BC2052 Seminar in Multicultural Elementary Pedagogy

EDUC BC2055 Urban School Practicum (sec 1)

EDUC BC3063 Student Teaching in Urban Schools

EDUC BC3064 Seminar on Issues in Urban Teaching

##### Educational Foundations

Select one of the following:

EDUC BC2032 Contemporary Issues in Education

ECON BC3012 Economics of Education

PHIL V2100 Philosophy of Education

SOCI W3225 Sociology of Education

##### Psychology

PSYC BC1001 Introduction to Psychology

Select one of the following:

PSYC BC1107 Psychology of Learning

PSYC BC1115 Cognitive Psychology

PSYC BC1129 Developmental Psychology

PSYC BC2134 Educational Psychology

PSYC W1420 Experimental Psychology: Human Behavior \*

PSYC W2220 Cognition: Memory and Stress \*

PSYC W2280 Introduction to Developmental Psychology \*

##### Education Electives

Open to all education students. One course may be counted as a second Foundations course for Childhood Education Program only.

EDUC BC3050 Science in the City

EDUC BC3052 Math and the City

##### Additional Course

A third course selected from either of the foundations, psychology and education electives categories above.

\* Courses offered at Columbia

Note: Senior year student teaching may conflict with other opportunities at Barnard (e.g., PSYC BC3465 Field Work and Research Seminar: The Barnard Toddler Center, PSYC BC3466 Field Work and Research Seminar: The Barnard Toddler Center). Students with these interests should arrange their schedules accordingly.

#### Adolescence Education Urban Teaching 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 credits from the following course of study:

##### Pedagogical Core (Education Program)

EDUC BC2052 Seminar in Multicultural Elementary Pedagogy 4

EDUC BC2055 Urban School Practicum 3

EDUC BC3063 Student Teaching in Urban Schools 6

EDUC BC3064 Seminar on Issues in Urban Teaching 4

##### Educational Foundations

Select one of the following: 3-4

PHIL V2100	Philosophy of Education
SOCI W3225	Sociology of Education
EDUC BC2032	Contemporary Issues in Education
HIST BC4543	Higher Learning in America
ECON BC3012	Economics of Education

**Psychology**

PSYC BC1001	Introduction to Psychology	3
Select one of the following:		3-4.5
PSYC BC1107	Psychology of Learning	
PSYC BC1115	Cognitive Psychology	
PSYC BC1129	Developmental Psychology	
PSYC BC2134	Educational Psychology	
PSYC W1420	Experimental Psychology: Human Behavior *	
PSYC W2220	Cognition: Memory and Stress *	
PSYC W2280	Introduction to Developmental Psychology *	
PSYC BC3382	Adolescent Psychology	

**Content Core (Major or Concentration)**

Students seeking certification in Adolescence Education must also complete 36 credits in the content area for which they seek certification. Typically students major in the subject area for which they are seeking certification. Students must earn a grade of C or better for each course taken in the content core.

**English:**

A total of 36 credits of English.

**Foreign Languages:**

A total of 36 credits in French, German, Greek, Italian, Latin, Russian, or Spanish.

**Mathematics:**

A total of 36 credits of Mathematics.

**Science:**

A total of 36 credits in sciences including a minimum of 18 credits of collegiate-level study in the science or each of the sciences for which certification is sought: Biology, Chemistry, Physics, or Earth Science. Please note that psychology does not count as a science for NYS Teacher Certification.

**Social Studies:**

A total of 36 credits, including 6 credits of American History; 6 credits of European or World History; 3 credits of non-Western study; and any other distribution to make 36 credits, chosen from credits in History, Political Science, Anthropology, Sociology, and Economics.

\* Courses offered at Columbia

\*\* Please note that some applied science courses will not be accepted.

**Certification Requirements**

Certification is based on demonstrated quality in fieldwork and academic coursework, 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 pre-student 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.

**REQUIREMENTS FOR THE EDUCATIONAL STUDIES TRACK**

To complete the Minor (BC) or Special Concentration (CC/GS) in Educational Studies, students must complete 21-24 points of course work, listed below.

The educational studies track requires a minimum of six courses:

**Required Courses**

EDUC BC2032	Contemporary Issues in Education
EDUC BC2055	Urban School Practicum
EDUC BC3050	Science in the City
or EDUC BC3052	Math and the City

**Educational / Psychology Foundations**

Select two of the following:

ECON BC3012	Economics of Education
PHIL V2100	Philosophy of Education
PSYC BC2134	Educational Psychology

PSYC Adolescent Psychology  
BC3382

SOCI BC3260 Sociology of Education

#### **Additional Course**

Students must take a minimum of 1 course where content can be applied to issues facing schooling in the US and/or the experiences of children and youth in school and community settings (to be approved in advance by Education Advisor). Suggested Courses are listed on our website (<http://education.barnard.edu/courses>).

## **REQUIREMENTS FOR THE URBAN STUDIES SPECIALIZATION IN EDUCATION**

Urban Studies majors who wish to pursue certification should apply to the Education Program in the fall of their junior year. We encourage students to plan carefully if they wish to pursue this option.

Urban studies majors who have selected education as their area of specialization within the major should complete the following:

EDUC Contemporary Issues in Education  
BC2032

PSYC BC2134 Educational Psychology  
or PSYC Adolescent Psychology  
BC3382

ECON Economics of Education  
BC3012

EDUC Seminar in Multicultural Elementary  
BC2052 Pedagogy  
or EDUC Seminar in Multicultural Secondary Pedagogy  
BC2062

EDUC Urban School Practicum  
BC2055



# ENGLISH AND COMPARATIVE LITERATURE

**Departmental Office:** 602 Philosophy; 212-854-3215  
<http://www.english.columbia.edu>

**Director of Undergraduate Studies:** Prof. Erik Gray, 408K  
Philosophy; 212-854-1668; [eg2155@columbia.edu](mailto:eg2155@columbia.edu)

## Departmental Advisers:

Prof. Marcellus Blount, 606A Philosophy;  
[mb33@columbia.edu](mailto:mb33@columbia.edu)

Prof. Erik Gray, 408K Philosophy; [eg2155@columbia.edu](mailto:eg2155@columbia.edu)

Prof. Matthew Hart, 408F Philosophy;  
[mh2968@columbia.edu](mailto:mh2968@columbia.edu)

Prof. Eleanor Johnson, 408J Philosophy; [ebj2117](mailto:ebj2117)  
([ebj2117@columbia.edu](mailto:ebj2117@columbia.edu)) @columbia.edu  
([an2498@columbia.edu](mailto:an2498@columbia.edu))

Prof. Cristobal Silva, 408H Philosophy;  
[cs2889@columbia.edu](mailto:cs2889@columbia.edu)

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, the department teaches 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). 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 or on-line at <http://english.columbia.edu/undergraduate/major-requirements>. 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 non-majors. Students are responsible for checking for any special registration procedures on-line at <http://english.columbia.edu/courses>.

### 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 Literary Texts, Critical Methods. During the three weeks preceding the registration period, students should check <http://english.columbia.edu/courses> for application instructions for individual seminars. Applications to seminars are usually due by the end of the week preceding registration. 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% of all graduating English majors) are to 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 do 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 on the departmental website (<http://www.english.columbia.edu>).

## FACULTY PROFESSORS

- Rachel Adams
- Branka Arsic
- Christopher Baswell (Barnard)
- Sarah Cole
- Susan Crane
- Nicholas Dames
- Jenny Davidson
- Andrew Delbanco
- Kathy Eden
- Brent Edwards
- Farah Jasmine Griffin
- Saidiya Hartman
- Marianne Hirsch
- Jean E. Howard
- Maire Jaanus (Barnard)
- Philip Kitcher (Philosophy)
- Sharon Marcus
- Edward Mendelson
- Robert O'Meally
- Julie Peters
- Ross Posnock
- Austin E. Quigley
- Bruce Robbins
- James Shapiro
- Gayatri Chakravorty Spivak (University Professor)
- Alan Stewart

- Mark Strand
- Gauri Viswanathan
- Jennifer Wenzel
- David M. Yerkes

## ASSOCIATE PROFESSORS

- Marcellus Blount
- Julie Crawford
- Patricia Dailey
- Michael Golston
- Erik Gray
- Ross Hamilton (Barnard)
- Molly Murray
- Frances Negrón-Muntaner
- Joseph Slaughter
- Maura Spiegel (Barnard)

## ASSISTANT PROFESSORS

- Katherine Biers
- John Gamber
- Austin Graham
- Matt Hart
- Eleanor Johnson
- Cristobal Silva
- Dennis Yi Tennen

## ADJUNCT ASSISTANT PROFESSORS

- Marianne Giordani
- Mark Phillopson
- John Robinson-Appels
- Victoria Rosner
- Richard Sacks

## LECTURERS

- Eileen Gillooly
- Deborah Martinsen

## REQUIREMENTS

### GUIDELINES 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 to discuss the program. Students declaring a major should obtain a Major Requirements Worksheet from 602 Philosophy or on-line at <http://english.columbia.edu/files/english/content/ENGLISH>

%20MAJOR%20WKSHEET\_0.pdf, which outlines the requirements.

Additional information, including events and deadlines of particular relevance to undergraduates, is provided at <http://english.columbia.edu/undergraduate>, the department's undergraduate homepage. The sidebar on this page provides links to pages with details about undergraduate 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 <http://english.columbia.edu/courses>, 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 names be added to the department's electronic mailing list for English majors and concentrators. Because important information now routinely is disseminated through e-mail, it is crucial that students be on this list.

## Literary Texts, Critical Methods

The introductory course ENGL W3001 Literary Texts, Critical Methods, together with its companion seminar, ENGL W3011 Literary Texts, Critical Methods seminar, 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 literature, 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 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 website, 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 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 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 points) 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/D/Fail.

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## MAJOR IN ENGLISH

Please read *Guidelines for all English and Comparative Literature Majors and Concentrators* (p. 235) above.

Ten departmental courses (for a minimum of 30 points) and, in the process, fulfillment of the following requirements. See course information above for details on fulfilling the distribution requirements.

1. ENGL W3001 Literary Texts, Critical Methods and ENGL W3011 Literary Texts, Critical Methods seminar
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/film/new media
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://english.columbia.edu/course-distribution-lists> 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 required courses.

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## CONCENTRATION IN ENGLISH

Please read *Guidelines for all English and Comparative Literature Majors and Concentrators* (p. 235) above.

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 Literary Texts, Critical Methods and ENGL W3011 Literary Texts, Critical Methods seminar

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://english.columbia.edu/course-distribution-lists>, to determine which courses fulfill which requirements. All of the restrictions outlined for the English major also apply for the concentration in English.

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## COMPARATIVE LITERATURE PROGRAM

Students who wish to major in comparative literature should consult the *Comparative Literature and Society* section of this Bulletin.

Students who wish to major in comparative literature should consult the *Comparative Literature and Society* section of this Bulletin.



# ETHNICITY AND RACE STUDIES

**Center for the Study of Ethnicity and Race:** 423 Hamilton; 212-854-0507  
<http://www.columbia.edu/cu/cser/>

**Interim Program Director:** Prof. Audra Simpson; [as3575@columbia.edu](mailto:as3575@columbia.edu)

**Program Director:** Prof. Frances Negrón-Muntaner (on leave academic year 2014-15), 422 Hamilton; 212-854-0507; [fn2103@columbia.edu](mailto:fn2103@columbia.edu)

**Director of Undergraduate Studies:** Prof. John Gamber, 416 Hamilton; 212-854-2058; [jbg2134@columbia.edu](mailto:jbg2134@columbia.edu)

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.

## PROGRAMS OF STUDY

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 a concentration in ethnicity and race studies. In both the major and concentration, students have the opportunity to select from the following areas of specialization:

- Asian American studies
- Comparative ethnic studies
- Latino/a studies
- Native American/Indigenous 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, this program 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, or 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, which 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.

## DEPARTMENTAL HONORS

CSER majors may choose to write and/or produce an honors project. If a monograph, the honors thesis is expected to be 35-50 pages in length. Honors projects can also take other forms, such as video or websites. These projects also require a written component but of a shorter length than the traditional



thesis. During their senior year, honors students perform research as part of CSER W3990 Senior Project Seminar. Senior projects are due in early April.

In order to qualify for departmental honors, students must satisfy all the requirements for the major, maintain a GPA of at least 3.6 in the major, and complete a high quality honors project. In addition, each student is expected to meet periodically with his or her supervising project adviser and preceptor. Normally no more than 10% of graduating majors each year receive departmental honors.

## FACULTY

### EXECUTIVE COMMITTEE

- Catherine Fennel (Anthropology)
- John Gamber (English and Comparative Literature)
- Karl Jacoby (History)
- Claudio Lomnitz (Anthropology)
- Frances Negrón-Muntaner (English and Comparative Literature)
- Mae Ngai (History)
- Ana Maria Ochoa (Ethnomusicology)
- Gary Okihiro (School of International and Public Affairs)
- Gray Tuttle (East Asian Languages and Cultures)
- Christopher Washburne (Ethnomusicology)

### AFFILIATED FACULTY

- Rachel Adams (English and Comparative Literature)
- Nadia Abu El-Haj (Anthropology, Barnard)
- Carlos Alonso (Latin American and Iberian Cultures)
- Janaki Bakhle (History)
- Christina Burnett (Law School)
- Kevin Fellezs (Music)
- Kaiama L. Glover (French, Barnard)
- Steven Gregory (Anthropology)
- Evan Haefeli (History)
- Kim Hall (English, Barnard)
- Marianne Hirsch (English and Comparative Literature)
- Maya Horn (History, Barnard)
- Jean Howard (English and Comparative Literature)
- Elizabeth Hutchinson (Art History, Barnard)
- Clara Irrazabal (Architecture, Planning and Preservation)
- Ira Katznelson (Political Science)
- George Lewis (Music)
- Natasha Lightfoot (History)
- Jose Moya (History, Barnard)
- Celia Naylor (History, Barnard)
- 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)
- Joseph Slaughter (English and Comparative Literature)
- Audra Simpson (Anthropology)
- Dennis Tenen (English and Comparative Literature)

## REQUIREMENTS

### MAJOR IN ETHNICITY AND RACE STUDIES

The major in ethnicity and race studies consists of a minimum of 27 points. Students take three core courses and write a senior research project. Following the core courses, students take a minimum of four elective courses, one of which must be a seminar:

#### Core Courses

- CSER W1040 Critical Approaches to the Study of Ethnicity and Race
- or CSER W1010 Introduction to Comparative Ethnic Studies
- CSER W3928 Colonization/Decolonization
- CSER W3919 Modes of Inquiry

#### Specialization

Students must complete at least four courses, in consultation with their major adviser, in one of the following areas of specialization:

- Asian American studies
- Comparative ethnic studies
- Latino/a studies
- Native American/Indigenous studies
- Individualized courses of study

#### Senior Research Project

CSER W3990 Senior Project Seminar

The final requirement for the major is completion of a Senior Essay, to be written in the spring of the senior year. All CSER seniors are expected to present their paper at the annual undergraduate symposium in April. Students may fulfill this requirement in one of the following two ways:

One, by matriculating in the Senior Thesis course and writing the thesis under the supervision of the course faculty.

Two, by taking an additional 4-point seminar where a major paper is required and further developing the paper into a thesis length work (minimum of 30 pages) under the supervision of a CSER faculty member.

#### 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

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## CONCENTRATION IN ETHNICITY AND RACE STUDIES

*The requirements for this program were modified on September 19, 2014. Students who declared this program before this date should contact the director of undergraduate studies for the department in order to confirm their correct course of study.*

The concentration in ethnicity and race studies requires a minimum of 19 points. Students take two core courses and four elective courses, one of which must be a seminar:

### Core Courses

CSER W1040 Critical Approaches to the Study of Ethnicity and Race

or CSER W1010 Introduction to Comparative Ethnic Studies

CSER W3928 Colonization/Decolonization

### Specialization

Students must complete at least four courses, in consultation with their major adviser, in one of the following areas of specialization:

Asian American studies

Comparative ethnic studies

Latino/a studies

Native American/Indigenous studies

Individualized courses of study

# FILM STUDIES

**Departmental Office:** 513 Dodge; 212-854-2815  
<http://arts.columbia.edu/film>

**Director of Undergraduate Studies:** Prof. Annette Insdorf,  
 513 Dodge; 212-854-1682; [ai3@columbia.edu](mailto:ai3@columbia.edu)

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, often supplemented by courses outside the department. In the lecture classes and seminars, there tends to be 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 film-making experience to Columbia undergraduate producers and directors. In addition to careers in screenwriting, directing, and producing, alumni 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 (three are required), to intermediate and advanced-level courses (two are required, plus seven electives). While film studies majors take workshops in screenwriting and film-making, the course of study is rooted in film history, theory, and culture.

The prerequisite for all classes is *Introduction to Film and Media Studies (FILM W3000)*, offered each term at Columbia as well as at Barnard, and open to first-year students. Subsequently, majors take a combination of history survey courses; workshops ("Labs"); and advanced classes in theory, genre study, national cinemas, auteur study, and screenwriting.

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.

Students who wish to graduate with Honors must take the Senior Seminar in Film Studies/Honors Seminar, writing a thesis that reflects mastery of cinematic criticism. The essay

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 undergraduate honors committees for confirmation. Normally no more than 10% of the graduating majors in the department each year receive departmental honors.

## FACULTY

### FACULTY

- Nico Baumbach
- Loren-Paul Caplin
- Jane Gaines
- Annette Insdorf
- Caryn James
- Christina Kallas
- Nelson Kim
- Robert King
- Sandra Luckow
- Richard Peña
- James Schamus
- Edward Turk

## REQUIREMENTS

### MAJOR IN FILM STUDIES

The major in film studies requires a minimum of 36 points distributed as follows:

#### Introductory Courses

FILM W3000 Introduction to Film and Media Studies

FILM W4000 Film and Media Theory

#### History Courses

Select two from the following, one of which must either be FILM W3003 or FILM W3006:

FILM W3003 Cinema History 1: Beginning-1930

FILM W3006 Cinema History 2: 1930-60

FILM W3008 Cinema History 3: 1960-90

FILM W3010 Cinema History 4: after 1990

#### Laboratories

Select one from the following:

FILM      Laboratory in Writing Film Criticism  
W3820

FILM      Laboratory In Nonfiction Filmmaking  
W3830

FILM      Laboratory in Screenwriting  
W3831

FILM      Laboratory in Fiction Filmmaking  
W3832

### Electives

Select seven from the following, one of which must be an international course:

FILM      The Documentary Tradition  
W3050

FILM      Topics in American Cinema  
W3300

FILM      Interdisciplinary Studies: History of TV  
W3500

FILM      Narrative Strategies in Screenwriting  
W3851

FILM      Seminar in International Film: Poland  
W3870  
(Section 1)

FILM      Seminar in International Film: French  
W3870      Cinema, 1930-1945, Modes of Realism  
(Section 2)

FILM      Script Analysis  
W4005

FILM      Auteur Study  
W4108

FILM      Topics in World Cinema: Latin America  
W4145  
(Section 1)

FILM      Topics in World Cinema: Contemporary  
W4145      Israeli Cinema  
(Section 2)

FILM      Senior Seminar in Filmmaking  
W3842

FILM      Senior Seminar in Screenwriting  
W3850

FILM      Senior Seminar in Film Studies  
W3900

FILM      Experimental Film and Media  
G4310

FILM      New Directions in Film and Philosophy  
G4320

FILM      Seeing Narrative  
R4440

# FRENCH AND ROMANCE PHILOLOGY

**Departmental Office:** 515 Philosophy; 212-854-2500 or 212-854-3208

<http://www.columbia.edu/cu/french/>

**Director of Undergraduate Studies:** Prof. Vincent Debaene, 501 Philosophy; 212-854-3522; vd2169@columbia.edu

**Director of the Language Program:** Dr. Pascale Hubert-Leibler, 519 Philosophy; 212-854-4819; ph2028@columbia.edu

**Academic Department Administrator:** Isabelle Chagnon, 515 Philosophy; 212-854-7978; ic7@columbia.edu

The Department of French and Romance Philology offers a major and concentration in French, as well as a major and concentration in French and Francophone Studies. Students who are primarily interested in French literature should consider the major in French. Students who are 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.

## Major in French

The major in French gives students an in-depth familiarity with the language, culture, and literature of France and the French-speaking world. After completing the four-semester language requirement, students take courses in advanced grammar, composition and stylistics to refine their skills in reading, speaking, and writing French. In a required two-semester survey course (FREN W3333-FREN W3334), they receive a comprehensive overview of the development of French literature from the Middle Ages to the present day. After completing these core courses, French majors are encouraged to pursue individual interests; a wide range of language, literature, and cultural studies courses is available. Small classes and seminars allow for individual attention and enable students to work closely with faculty members. Advanced elective courses on French literature, history, philosophy, and cinema allow students to explore intellectual interests, perfect critical reading skills, and master close reading techniques.

The capstone course 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, introduces students to scholarly research. To be considered for departmental honors, students must complete the senior essay.

## Major in French and Francophone Studies

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:

- French grammar and composition/stylistics, essential to achieving proficiency in French language;
- FREN W3420 Introduction to French and Francophone Studies, I-FREN W3421 Introduction to French and Francophone Studies II; and,
- FREN W3995 Senior Seminar

Having completed these courses, students take courses in related departments and 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.

## IN FULFILLMENT OF THE LANGUAGE REQUIREMENT

FREN W1101-FREN W1102 Elementary Course and FREN W1201- FREN W1202 Intermediate Course. 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 satisfies the language requirement.

The Barnard course, FREN BC1204 Intermediate II does **not** fulfill the undergraduate language requirement.

## Language Proficiency Courses

Elementary and intermediate French courses help students develop an active command of the language. In FREN W1101 Elementary Course and FREN W1102 Elementary Course, the communicative approach is the main instructional method. 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, FREN W1201 Intermediate Course and FREN W1202 Intermediate Course, develop linguistic competence through the study of short stories, films, novels



and plays. After completing the four-semester language sequence, students can discuss and write in fairly proficient French on 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.

## Conversation Courses

Students looking for intensive French oral practice may take one of the 2-point conversation courses offered at intermediate and advanced levels. Conversation courses generally may not be counted toward the major. The exception is the special 3-point advanced conversation course, FREN W3498 French Cultural Workshop, offered in the fall, designed to meet the needs of students planning to study abroad at Reid Hall.

## ADVANCED PLACEMENT

- AP score of 4: The department grants 0 credits for a score of 4 on the AP French Language exam, but the foreign language requirement is satisfied.
- AP score of 5 or DELF: The department grants 3 credits for a score of 5 on the AP French Language exam, or for the completion of DELF (Diplôme d'Etudes en Langue Française). Students are awarded this credit after they take a 3000-level French course (taught in French, for at least 3 points) and obtain a grade of B or above in that course.
- DALF C1 level or IB HL score of 6 or 7: The department grants 6 credits for the C1 level of DALF (Diplôme Approfondi de Langue Française), or for a score of 6 or 7 on the International Baccalaureate (IB) Higher Level (HL) exam. Students have no obligation to take higher-level French courses in order to receive these 6 credits, but restrictions apply on the use of these credits toward the French major.

## LANGUAGE LABORATORY AND ON-LINE MATERIALS

Language laboratories located 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 houses a reading room of French newspapers, periodicals, books, and videos, and sponsors lectures/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.

## 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 or 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).

For information on study abroad, visit the OGP website at [www.ogp.columbia.edu](http://www.ogp.columbia.edu), call 212-854-2559, or e-mail [studyabroad@columbia.edu](mailto:studyabroad@columbia.edu). For a list of approved study abroad programs, visit <http://www.ogp.columbia.edu/index.cfm?FuseAction=Programs.ListAll>.

## 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 in the French university system (e.g. at the Sorbonne) and core courses offered at Reid Hall. In their first semester, students take a course in academic writing in French, enabling them to succeed at a high level in French university courses. Special opportunities include small topical seminars of Reid Hall students and French students.

For information on study abroad at Reid Hall, visit [www.ogp.columbia.edu](http://www.ogp.columbia.edu).

## GRADING

Students who wish to offer toward the major or concentration 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, students must have a grade point average of at least 3.7 in major courses and have completed an approved senior thesis under the guidance of a faculty member at Columbia or Reid Hall. Normally no more than 10% of graduating majors each year receive departmental honors.

## UNDERGRADUATE PRIZES

The Department of French and Romance Philology awards the following prizes to students enrolled in courses in the department:

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.

## FACULTY PROFESSORS

- Antoine Compagnon
- Souleymane Bachir Diagne
- Pierre Force
- Elisabeth Ladenson

## ASSOCIATE PROFESSORS

- Peter Connor (Barnard)
- Vincent Debaene
- Madeleine Dobie
- Emmanuelle Saada
- Joanna Stalnaker

## ASSISTANT PROFESSORS

Eliza Zingesser

## VISITING PROFESSORS

Etienne Balibar

## SENIOR LECTURERS

- Pascale Hubert-Leibler
- Sophie Queuniet

## LECTURERS

- Vincent Aurora
- Alexandra Borer
- Pascale Crépon
- Heidi Holst-Knudsen
- Samuel Skippon

## REQUIREMENTS

### MAJOR IN FRENCH

The program of study should be planned before the end of the sophomore year with the director of undergraduate studies.

The major in French requires a minimum of 33 points beyond completion of language requirement (FREN W1202 Intermediate Course) distributed as follows:

FREN W3405 Advanced Grammar and Composition

FREN W3333 Introduction to Literary Study I  
- FREN            and Introduction to Literary Studies II  
W3334

FREN W3600 France, Past and Present. An Introduction  
to French Civilization.

FREN W3995 Senior Seminar

One upper-level course on literature before 1800

One course in area of Francophone literature or culture,  
i.e. bearing on practices of French outside of France or on  
internal cultural diversity of France

The remaining courses (12 points) are to be chosen from 3000-level offerings in French literature, linguistics, or civilization.

Note the following:

- FREN BC3006 Composition and Conversation is not applicable to either the French major or the concentration. Other Barnard French courses may be taken with the approval of the director of undergraduate studies.
- Heritage speakers are exempted from FREN W3405 Advanced Grammar and Composition, but must replace the course by taking an advanced elective.

The following Columbia French courses are **not applicable** to the French major or concentration:

FREN W1101 Elementary Course

FREN W1102 Elementary Course

FREN W1105 Accelerated Elementary French

FREN W1201 Intermediate Course

FREN W1202 Intermediate Course

FREN W1206 Rapid Reading and Translation

FREN W1221 Intermediate Conversation I and II

FREN W1222 Intermediate Conversation I and II

FREN W3131 Third-Year Conversation

FREN W3132 Third-Year Conversation

FREN W3240 French Language, Society, and Culture  
through film

FREN W3498 French Cultural Workshop

## CONCENTRATION IN FRENCH

The concentration in French requires a minimum of 27 points beyond completion of language requirement (FREN W1202 Intermediate Course) distributed as follows:

FREN W3405 Advanced Grammar and Composition

FREN W3600 France, Past and Present. An Introduction  
to French Civilization.

FREN W3333 Introduction to Literary Study I  
- FREN            and Introduction to Literary Studies II  
W3334

The remaining courses (15 points) to be chosen from  
3000-level offerings in French literature, linguistics, or  
civilization.

## 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.

The major in French and Francophone studies requires a minimum of 33 points beyond completion of the language

requirement (FREN W1202 Intermediate Course) distributed as follows:

FREN W3405 Advanced Grammar and Composition

FREN W3420 Introduction to French and Francophone Studies, I

FREN W3421 Introduction to French and Francophone Studies II

FREN W3995 Senior Seminar

One course on francophone/postcolonial French literature  
The remaining courses (18 points) are to be chosen from upper-level offerings in French and other disciplines. Nine (9) of these points must be taken in a discipline other than French literature. To ensure focus, 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.

Note the following:

- FREN BC3006 Composition and Conversation is not applicable to either the French and Francophone studies major or concentration. Other Barnard College French courses may be taken with the approval of the director of undergraduate studies.
- Heritage speakers are exempted from FREN W3405 Advanced Grammar and Composition, but must replace the course by taking an advanced elective.

The following Columbia French courses are not applicable to the French and Francophone studies major or concentration:

FREN W1101 Elementary Course

FREN W1102 Elementary Course

FREN W1105 Accelerated Elementary French

FREN W1201 Intermediate Course

FREN W1202 Intermediate Course

FREN W1206 Rapid Reading and Translation

FREN W1221 Intermediate Conversation I and II

FREN W1222 Intermediate Conversation I and II

FREN W3131 Third-Year Conversation

FREN W3132 Third-Year Conversation

FREN W3240 French Language , Society, and Culture through film

FREN W3498 French Cultural Workshop

## CONCENTRATION IN FRENCH AND FRANCOPHONE STUDIES

The concentration in French and Francophone studies requires a minimum of 27 points beyond completion of the language requirement (FREN W1202 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=FREN%20W1202>) Intermediate Course) distributed as follows:

FREN W3405 Advanced Grammar and Composition

FREN W3600 France, Past and Present. An Introduction to French Civilization.

FREN W3420 Introduction to French and Francophone Studies, I

FREN W3421 Introduction to French and Francophone Studies II

One course on francophone/postcolonial French literature  
The remaining courses (12 points) are to be chosen from upper-level offerings in French and other disciplines. Six (6) of these points must be taken in a discipline other than French literature. To ensure focus, these interdisciplinary elective courses must fall within a single discipline or subject area. Courses must be pre-approved by the director of undergraduate studies.

## GERMANIC LANGUAGES

**Departmental Office:** 414 Hamilton; 212-854-3202  
<http://www.columbia.edu/cu/german/>

**Director of Undergraduate Studies:** Prof. Tobias Wilke, 412 Hamilton; 212-854-5344; [tw2284@columbia.edu](mailto:tw2284@columbia.edu)

**Language Instruction:** Prof. Richard Korb, 404A Hamilton; 212-854-2070; [rak23@columbia.edu](mailto:rak23@columbia.edu)

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. The department also participates 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 Yiddish.

## 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.

After successfully completing the elementary German GERM V1101 Elementary German Language Course, I- GERM V1102 Elementary German Language Course, II sequence, students are 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 Intermediate German I- GERM V1202 Intermediate German Language Course, II 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 Advanced German, I- *GERM V3002 Advanced German II: Vienna*), on specific cultural areas (e.g., GERM W3220 Berlin: Past and Present [In German], or GERM W4090 German for International and Public Affairs [In German]), and on literary, historical, and philosophical areas in literature-oriented courses (GERM W3333 Introduction To German Literature [In German]).

## IN FULFILLMENT OF THE LANGUAGE REQUIREMENT IN GERMAN

Courses: GERM V1101 Elementary German Language Course, I- GERM V1102 Elementary German Language Course, II and GERM V1201 Intermediate German I- GERM V1202 Intermediate German Language Course, II. 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. Students who need to take GERM V1201 Intermediate German I- GERM V1202 Intermediate German Language Course, II may take GERM V1125 Accelerated Elementary German I & II as preparation for GERM V1201 Intermediate German I.

## 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 *Study Abroad—Sponsored Programs* section in this Bulletin, visit the Office of Global Programs (<http://www.ogp.columbia.edu>), or consult the program office in 606 Kent Hall; 212-854-2559; [berlin@columbia.edu](mailto:berlin@columbia.edu).

For additional information on the Berlin Consortium, visit the Office of Global Programs (<http://www.ogp.columbia.edu>)

, or consult the program office in 606 Kent Hall; 212-854-2559; [berlin@columbia.edu](mailto:berlin@columbia.edu).

## 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

Normally no more than 10% of the graduating majors in the department each year may receive departmental honors. For the requirements for departmental honors, see the director of undergraduate studies.

## FACULTY PROFESSORS

- Mark Anderson
- Stefan Andriopoulos
- Jeremy Dauber
- Andreas Huysen
- Harro Müller
- Dorothea von Mücke (Chair)

## ASSOCIATE PROFESSOR

- Oliver Simons

## ASSISTANT PROFESSOR

- Tobias Wilke

## SENIOR LECTURERS

- Richard Korb
- Jutta Schmiers-Heller

## LECTURERS

- Wijnie de Groot (Dutch)
- Tiina Haapakoski (Finnish)
- Agnieszka Legutko (Yiddish)

## REQUIREMENTS

### 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:

GERM V3001 Advanced German, I  
or GERM V3002 Advanced German II: Vienna

GERM W3333 Introduction To German Literature [In German]

Select two of the following survey courses in German literature and culture (at least one of these must focus on pre-20th-century cultural history):

GERM W3443 Romanticism, Revolution, Realism [In German]

GERM W3444 Decadence, Modernism, Exile [In German]

GERM W3445 German Literature After 1945 [In German]

One course in German intellectual history

GERM C3991 Senior Seminar [in German] (required of all majors in their senior year, but may also be taken as a seminar by juniors)

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.

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## MAJOR 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 is 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
2. Two courses in Yiddish literature, at least one of which is not taught in translation
3. One course in the senior seminar or independent study
4. Four related courses, at least one of which is in medieval or modern Jewish history

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.

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## CONCENTRATION IN GERMAN LITERATURE AND CULTURAL HISTORY

A minimum of 21 points in German courses numbered GERM V3001 Advanced German, I and above, including the senior seminar *GERM C3991 Senior Seminar [in German]*, which may be taken in the junior or senior year.

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## CONCENTRATION TRACK IN YIDDISH STUDIES

A minimum of 24 points distributed as follows:

1. At least three courses of beginning/intermediate language study
2. Two courses in Yiddish literature
3. Three related courses, at least one of which is in medieval or modern Jewish history

# HISTORY

**Departmental Office:** 413 Fayerweather; 212-854-4646  
<http://www.history.columbia.edu>

**Director of Undergraduate Studies:** Prof. Caterina Pizzigoni,  
 321 Fayerweather; 212-854-8709; cp2313@columbia.edu

**Undergraduate Administrator:** KC Fisher,  
 kcf2115@columbia.edu

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 and concentrators at least once per year. POS forms track students' progress toward completing all major and concentration requirements. New history majors and 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 departmental website (<http://www.history.columbia.edu>).

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% of the graduating majors 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 most seminars is by instructor permission or 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 some 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 departmental website (<http://www.history.columbia.edu>).

## FACULTY PROFESSORS

- Charles Armstrong
- 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 (Middle Eastern, South Asian, and African Studies)
- Barbara Fields
- Eric Foner
- Carol Gluck
- William Harris
- Martha Howell
- Robert Hymes (East Asian Language and Cultures)
- Kenneth Jackson
- Karl Jacoby
- Matthew Jones
- Ira Katznelson (Political Science)
- Joel Kaye (Barnard)
- Alice Kessler-Harris
- Rashid Khalidi
- Dorothy Ko (Barnard)
- Adam Kosto
- William Leach
- Gregory Mann
- Mark Mazower
- Robert McCaughey (Barnard)
- Jose Moya (Barnard)
- Mae Ngai
- Susan Pedersen
- Pablo Piccato
- Rosalind Rosenberg (Barnard)

- David Rosner (Public Health)
- David Rothman (Medicine)
- Simon Schama (University Professor)
- Seth Schwartz
- Herbert Sloan (Barnard)
- Pamela Smith (Acting Chair)
- Robert Somerville (Religion)
- Michael Stanislawski
- Anders Stephanson
- Lisa Tiersten (Barnard)
- Deborah Valenze (Barnard)
- Marc Van de Mierop
- Madeleine Zelin (East Asian Languages and Cultures)

## ASSOCIATE PROFESSORS

- Lisbeth Kim Brandt (East Asian Languages and Cultures)
- Marwa Elshakry
- Rebecca Kobrin
- Eugenia Lean (East Asian Languages and Cultures)
- Feng Li (East Asian Languages and Cultures)
- David Lurie (East Asian Languages and Cultures)
- Malgorzata Mazurek
- Nara Milanich (Barnard)
- Celia Naylor (Barnard)
- Gregory Pflugfelder (East Asian Languages and Cultures)
- Christine Philliou
- Caterina Pizzigoni
- Anupama Rao (Barnard)
- Samuel Roberts
- Neslihan Senocak
- Carl Wennerlind (Barnard)

## ASSISTANT PROFESSORS

- Manan Ahmed
- Tarik Amar
- Gergely Baics
- Charly Coleman
- Elizabeth Esch (Barnard)
- Abosede George (Barnard)
- Hilary-Anne Hallett
- Natasha Lightfoot
- Rhiannon Stephens
- Gray Tuttle (East Asian Languages and Cultures)
- Emma Winter

## ON LEAVE

- Profs. Billows, Connelly, Jacoby, Piccato, Stephanson, Stephens, Winter (*2014-2015*)
- Profs. Brinkley, Senocak (*Fall 2014*)

- Profs. Brown, Gluck, Howell, Khalidi (*Spring 2015*)

## REQUIREMENTS

### MAJOR IN HISTORY

Students must complete a minimum of 29 points in the department, of which 13 or more points 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 UNDED, according to geographical, chronological, and/or thematic criteria. For example, 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 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 explicit written approval of the UNDED chair.

### 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 yearlong HIST C4398 Senior Thesis Seminar-HIST C4399 Senior Thesis Seminar carries 8 points, 4 of which typically count as a seminar in the specialization. Students are encouraged to take HIST W4900 Historian's Craft for a more intensive study of historiography. HIST W4900 Historian's Craft 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.

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### CONCENTRATION IN HISTORY

Students must complete a minimum of 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 the concentration.

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## 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

The University offers 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 or General Studies. 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.

## FACULTY

### INTERDEPARTMENTAL COMMITTEE ON HISTORY AND PHILOSOPHY OF SCIENCE

David Albert  
Philosophy  
706 Philosophy; 212-854-3519

Walter Bock  
Biology  
1106 Schermerhorn; 212-854-4487

Deborah Coen  
History (Barnard)  
410 Lehman; 212-854-7449

Marwa Elshakry  
History  
512 Fayerweather; 212-851-5914

Karl Jacoby  
History  
424 Hamilton; 212-854-3248

Richard John  
History  
201E Pulitzer; 212-854-0547

Matthew Jones  
History  
514 Fayerweather; 212-854-2421

Joel Kaye  
History  
422B Lehman; 212-854-4350

Philip Kitcher  
Philosophy  
717 Philosophy; 212-854-4884

Eugenia Lean  
History  
925 International Affairs Building; 212-854-1742

Christia Mercer  
Philosophy  
707 Philosophy; 212-854-3190

Alondra Nelson  
Sociology  
607 Knox; 212-851-7081

Samuel Roberts  
History  
322 Fayerweather; 212-854-2430

David Rosner  
History  
420 Fayerweather; 212-854-4272

George Saliba  
Middle Eastern, South Asian, and African Studies  
312 Knox; 212-854-4166

Pamela Smith  
History  
605 Fayerweather; 212-854-7662

# HUMAN RIGHTS

**Program Office:** Institute for the Study of Human Rights; 91 Claremont Avenue, 7th Floor; 212-851-9703; [humanrightsed@columbia.edu](mailto:humanrightsed@columbia.edu)

<http://humanrightscolumbia.org/education/undergraduate>

**Director of Undergraduate Studies:** Prof. Joseph Slaughter, 511A Philosophy; 212-854-6433; [jrs272@columbia.edu](mailto:jrs272@columbia.edu)

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, cultural, and political issues.

The Undergraduate Human Rights Program at the Institute for the Study of Human Rights engages students in this dynamic and evolving field and enhances 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. More information on academic and extracurricular events, opportunities, and resources for undergraduate human rights students is available on the program's website. For an advising appointment, email [humanrightsed@columbia.edu](mailto:humanrightsed@columbia.edu).

## DEPARTMENTAL HONORS

To be eligible for departmental honors, a student must satisfy all the requirements for the major, maintain a 3.6 GPA in the major, maintain an overall GPA of 3.6, and complete a thesis of sufficiently high quality to merit honors. A thesis is required of all students who wish to be considered for honors, but does not guarantee honors. Students write the thesis in HRTS W3996 Human Rights Thesis Seminar in the spring. Students who graduate in October, February, or May of a given academic year are eligible for honors consideration in May.

## REQUIREMENTS

### GUIDELINES FOR ALL HUMAN RIGHTS MAJORS, CONCENTRATORS, AND SPECIAL CONCENTRATORS

Student should also consult the general academic policies of their school.

### Planning Forms

Major and concentration planning forms are available on the ISHR undergraduate program website. Prior to each semester, students should submit an on-line course advising form.

Students may also email [humanrightsed@columbia.edu](mailto:humanrightsed@columbia.edu) to set up an advising appointment.

## Grades

No course with a grade of D or lower is credited towards the major or concentration.

One course, with the exception of the three core courses required for the major, can be taken for Pass/D/Fail. The student must receive a grade of P for the course to count toward the requirements of the major or concentration. All other courses must be taken for a letter grade.

All seminar courses must be taken for a letter grade.

## Transfer Credit/Study Abroad Credit

Transfer credit toward the major and concentration is not awarded for courses taken on a Pass/Fail basis. The minimum grade necessary for transfer credit toward the major or concentration is C-.

No more than 12 transfer credits may count toward the major and 9 for the concentration.

## Double-Counting

Students may double count major or concentration courses toward the fulfillment of degree requirements in accordance with the academic policies of their school.

Normally, courses for one program of study (i.e. major, concentration, special concentration, etc.) may not be used to satisfy the course requirements for another program of study. Students should consult their schools academic policies for specific information.

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## MAJOR IN HUMAN RIGHTS

The major in human rights requires 32 points as follows. One of the distributional or specialization courses must be a seminar.

### Core Courses

HRTS V3001 Introduction to Human Rights

HRTS V3190 International Human Rights Law

HRTS W3995 Human Rights Senior Seminar

### Distributional Requirement

Students should take one course in three of the four categories:

Politics and history

Culture and representation

Political theory and philosophy

Social and economic processes

### Specialization Requirement

Students fulfill the specialization requirement by focusing on a particular discipline, taking four courses offered by a single department or institute.

Please see the ISHR undergraduate course list (<http://humanrightscolumbia.org/education/undergraduate/courses>) (<http://hrcolumbia.org/undergraduate/courses>) for the current list of courses that fulfill the distributional requirement of the major.

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## CONCENTRATION IN HUMAN RIGHTS

The concentration in human rights requires a minimum of 25 points as follows:

HRTS V3001 Introduction to Human Rights

Seven additional human rights courses, one of which must be a seminar

Please see the ISHR undergraduate course list (<http://humanrightscolumbia.org/education/undergraduate/courses>) for the current list of courses that fulfill the concentration requirements.

# ITALIAN

**Departmental Office:** 502 Hamilton; 212-854-2308  
<http://italian.columbia.edu/>

**Director of Undergraduate Studies:** Asst. Prof. Pier Mattia Tommasino, 513 Hamilton; 212-854-0747;  
[pmt2114@columbia.edu](mailto:pmt2114@columbia.edu)

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. In addition, the prerequisite and corequisite sequence of language courses is designed to give students a command of written and spoken Italian.

Majors must complete 30 points and concentrators must complete 24 points. All majors and concentrators are required to take two semesters of Advanced Italian (ITAL V3335 Advanced Italian-ITAL V3336 Advanced Italian II: Italian Language & Culture or ITAL V3337 Advanced Italian Through Cinema.) as well as one of the following two sequences:

- Introduction to Italian Literature I and II (ITAL V3333-ITAL V3334) provides an overview of major authors and works in the Italian literary tradition from the Middle Ages to the present.
- Italian Cultural Studies I and II (ITAL W4502- ITAL W4503) is an interdisciplinary investigation into Italian culture and society from national unification in 1860 to the present.

In consultation with the director of undergraduate studies, majors select six additional courses (concentrators select four additional courses) from the department's 3000- or 4000-level offerings or from other humanities and social science departments with a focus on Italian culture.

Highly motivated students have the opportunity to pursue a senior thesis under the guidance of a faculty adviser in an area of Italian literature or culture of their choosing. The senior thesis tutorial, ITAL V3993 Senior Thesis Seminar, will count for three points.

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 materials, 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 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 or a concentration in Italian, are open to any qualified student whose main goal is to improve and perfect their competence in the language. It is recommended that advanced undergraduate students take Stylistics (ITAL W4000) if they are considering graduate studies in Italian or a career that requires superior command of spoken and written Italian.

Outside the classroom, the Department of Italian organizes a weekly *Caffè e conversazione* where students at all levels can converse with fellow students and faculty members over Italian espresso and cookies. Students can also attend the *Serata al cinema*, Italian film viewings scheduled in the evening throughout the academic year, in which faculty and graduate students introduce each film and then conclude with a question and answer session. In addition, the student-run *Società Italiana* ([culasocieta@gmail.com](mailto:culasocieta@gmail.com)) organizes events such as pasta-making workshops, movie nights, and costume parties.

## 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 are sponsored by the Italian Academy for Advanced Studies in America (<http://www.italianacademy.columbia.edu>), located in Casa Italiana. These programs, which include the activities of 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.

For inquiries into the Department and its undergraduate and graduate degrees offered, please contact 212-854-2308 or [italian@columbia.edu](mailto:italian@columbia.edu).

## 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 Senior Thesis Seminar. Normally, departmental honors are awarded to no more than one graduating senior.

## FACULTY

### PROFESSORS

Teodolinda Barolini (on sabbatical)  
Jo Ann Cavallo (Chair)  
Elizabeth Leake

### ASSOCIATE PROFESSOR

Nelson Moe (Barnard)

### ASSISTANT PROFESSOR

Pier Mattia Tommasino

### SENIOR LECTURERS

Maria Luisa Gozzi  
Barbara Spinelli  
Carol Rounds (Hungarian)

### LECTURERS

Felice Italo Beneduce  
Patrizia Palumbo  
Federica Franze  
Alessandra Saggin

## REQUIREMENTS

### GUIDELINES FOR ALL ITALIAN MAJORS AND CONCENTRATORS

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 Elementary Italian  
- ITAL V1102 and Elementary Italian  
ITAL V1201 Intermediate Italian  
- ITAL V1202 and Intermediate Italian

For students planning to enroll in Intensive Italian courses, a minimum of three semesters of Italian language instruction is required, such as:

ITAL V1121 Intensive Elementary Italian  
- ITAL V1201 and Intermediate Italian  
- ITAL V1202 and Intermediate Italian  
ITAL V1101 Elementary Italian  
- ITAL V1102 and Elementary Italian  
- ITAL V1203 and Intensive Intermediate Italian  
ITAL V1121 Intensive Elementary Italian  
- ITAL V1203 and Intensive Intermediate Italian  
And one of the following:  
ITAL V3335 Advanced Italian  
ITAL V3336 Advanced Italian II: Italian Language & Culture  
ITAL V3337 Advanced Italian Through Cinema.

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, 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.

## MAJOR IN ITALIAN LITERATURE

Please read *Guidelines for all Italian Majors and Concentrators* above.



## Requirements

The major in Italian literature requires a minimum of 30 points in Italian courses numbered above the intermediate level, i.e. above ITAL V1302, to include the following:

### Two semesters of Italian Literature

ITAL V3333 Introduction To Italian Literature, I  
- ITAL V3334 and Introduction To Italian Literature, II

### Two semesters of Advanced Italian

ITAL V3335 Advanced Italian  
- ITAL V3336 and Advanced Italian II: Italian Language & Culture

or ITAL V3337 Advanced Italian Through Cinema.

### Additional Courses

ITAL V3993 Senior Thesis Seminar (or another course in Italian literature or culture)

Native speakers and students with superior proficiency (as demonstrated by a departmental exam) may replace the Advanced Italian sequence with six 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.

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## MAJOR IN ITALIAN CULTURAL STUDIES

Please read *Guidelines for all Italian Majors and Concentrators* above.

## Requirements

The major in Italian cultural studies requires a minimum of 30 points in Italian courses numbered above the intermediate level, i.e. above ITAL V1302, to include the following:

### Two semesters of Advanced Italian

ITAL V3335 Advanced Italian  
- ITAL V3336 and Advanced Italian II: Italian Language & Culture

or ITAL V3337 Advanced Italian Through Cinema.

### Two semesters of Italian Cultural Studies

ITAL W4502 Italian Cultural Studies I: From Unification to World War I  
- ITAL W4503 and Italian Cultural Studies II: From World War I to the Present

### Additional Courses

Select at least two other courses from the department's W4000-level courses.

ITAL V3993 Senior Thesis Seminar (or another course in Italian literature or culture)

Native speakers and students with superior proficiency (as demonstrated by a departmental exam) may replace the Advanced Italian sequence with six points of Italian literature courses of their choice.

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## CONCENTRATION IN ITALIAN LITERATURE

Please read *Guidelines for all Italian Majors and Concentrators* above.

The concentration in Italian literature requires a minimum of 24 points in Italian courses numbered above the intermediate level, i.e. above ITAL V1302, to include the following:

### Two semesters of Italian Literature

ITAL V3333 Introduction To Italian Literature, I  
- ITAL V3334 and Introduction To Italian Literature, II

### Two semesters of Advanced Italian

ITAL V3335 Advanced Italian  
- ITAL V3336 and Advanced Italian II: Italian Language & Culture

or ITAL V3337 Advanced Italian Through Cinema.

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## CONCENTRATION IN ITALIAN CULTURAL STUDIES

Please read *Guidelines for all Italian Majors and Concentrators* above.

The concentration in Italian cultural studies requires a minimum of 24 points in Italian courses numbered above the intermediate level, i.e. above ITAL V1302, to include the following:

### One semester of Advanced Italian

ITAL V3335 Advanced Italian

### Two semesters of Italian Cultural Studies

ITAL W4502 Italian Cultural Studies I: From Unification to World War I  
- ITAL W4503 and Italian Cultural Studies II: From World War I to the Present

### Additional Courses

Select at least two other courses from the department's W4000-level courses.

In consultation with the director of undergraduate studies, the remaining courses may be selected from the department's 3000- or 4000-level offerings or from other humanities and social science departments with a focus on Italian culture.

# JAZZ STUDIES

**The Center for Jazz Studies:** Prentis Hall, 4th floor (632 W. 125th Street); 212-851-9270  
<http://www.columbia.edu/cu/cjs>

## **Jazz at Columbia:**

<http://www.music.columbia.edu/~cecenter/JazzConcentration/>

**Director:** Prof. Robert G. O'Meally, 611 Philosophy;  
 212-851-9270; [rgo1@columbia.edu](mailto:rgo1@columbia.edu)

**Director of Jazz Performance:** Prof. Christopher Washburne,  
 619A Dodge; 212-854-9862; [cjw5@columbia.edu](mailto:cjw5@columbia.edu)

**Program Administrator:** Yulanda Mckenzie-Grant, 602  
 Philosophy; 212-851-9270; [ym189@columbia.edu](mailto:ym189@columbia.edu)

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.

The program also explores in depth the development of jazz-oriented art works in the music's sister arts—literature, dance, painting, photography, and film. 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 between music majors and non-music majors is that while music majors take advanced courses in arranging, composition, and transcription, non-music majors 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; 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.

## FACULTY

### 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)

## ADJUNCT LECTURERS IN JAZZ PERFORMANCE

- Paul Bollenbeck
- Christine Correa
- David Gibson
- Brad Jones
- Victor Lin
- Ole Mathiesen
- Tony Moreno
- Ugonna Okegwa
- Adriano Santos
- Don Sickler
- Leo Traversa
- Ben Waltzer

## REQUIREMENTS

### GUIDELINES FOR ALL JAZZ STUDIES SPECIAL CONCENTRATORS

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.

In addition to the requirements of the special concentration, students must complete a major. 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.

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## SPECIAL CONCENTRATION IN JAZZ STUDIES

Please read *Guidelines for all Jazz Studies Special Concentrators* above.

The special concentration in jazz studies requires a total of seven courses (22 points minimum), distributed as follows:

### Requirements for Non-Music Majors/ Concentrators

ENGL W4612 Jazz and American Culture

MUSI V2016 Jazz

MUSI V1002 Fundamentals of Music

Three interdisciplinary courses as approved by the director

A senior independent study project

### Requirements for Music Majors/ Concentrators

ENGL W4612 Jazz and American Culture

MUSI V2016 Jazz

MUSI G4505 Jazz Arranging and Composition

MUSI G4500 Jazz Transcription and Analysis

MUSI V1618 Columbia University Jazz Ensemble  
- MUSI and Columbia University Jazz Ensemble  
V1619 (strongly recommended but not required)

Private music lessons (strongly recommended but not required)

Three interdisciplinary courses as approved by the director

A senior independent study project

# JEWISH STUDIES

**Program Office:** Institute for Israel and Jewish Studies, 511 Fayerweather; 212-854-2581  
<http://www.iijs.columbia.edu/>

**Program Director:** Prof. Jeremy Dauber, 319 Hamilton; 212-854-9608; jad213@columbia.edu

**Assistant Director:** Sheridan Gayer, 511 Fayerweather; 212-854-2581; sjg41@columbia.edu

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 undergraduates and allows 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 requirements for the special concentration are designed to provide 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 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.

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.

## FACULTY

### AFFILIATED FACULTY

- Nehama R. Bersohn (Middle Eastern, South Asian, and African Studies)
- Beth Berkowitz (Religion, Barnard)
- Elisheva Carlebach (History)
- Yinon Cohen (Sociology)
- Jeremy Dauber (Germanic Languages)
- Rebecca Kobrin (History)
- Rina Kreitman (Middle Eastern, South Asian, and African Studies)
- Agnieszka Legutko (Germanic Languages)

- Dan Miron (Middle Eastern, South Asian, and African Studies)
- Sam Moyn (History)
- Seth Schwartz (History)
- Michael Stanislawski (History)

## REQUIREMENTS SPECIAL CONCENTRATION IN JEWISH STUDIES

In addition to the requirements of the special concentration, students must complete a major or a full concentration.

In addition to the requirements of the special concentration, students must complete a major.

For a special concentration in Jewish studies, students are required to complete a minimum of 21 points. Please note:

- At least one course must be taken from each of 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 at Columbia or as part of an approved study abroad program (unless equivalent courses are not offered at Columbia, as determined by the faculty adviser).

The focus areas and courses listed below are examples and do not include all the potential courses which may count. 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 faculty adviser.

## Focus Areas

### Bible and Rabbinics/Ancient Judaism

RELI V3512	The Bible and Its Interpreters
RELI W4537	Talmudic Narrative
RELI W4520	Patriarchal and Rabbinic Authority in Antiquity
RELI V3501	Introduction To the Hebrew Bible
RELI V3508	Origins of Judaism
RELI V3561	Classics fo Judaism: Ethics of the Fathers
RELI V2510	Jews and Judaism in Antiquity
RELI W4535	Ancient Jewish Texts

### Medieval Judaism

HIST W3657	Medieval Jewish Cultures
HIST W3616	Jews and Christians in the Medieval World
RELI W4510	The Thought of Maimonides
RELI V3870	Inquisitions, New Christians, and Empire
RELI W4515	Jews in the Later Roman Empire
HIST W4180	Conversion in Historical Perspective

**Modern Judaism**

HIST W3630 American Jewish History

RELI V3571 Judaism, Jewishness, &amp; Modernity

MDES  
W3542 Introduction to Israeli Literature**Israeli Society**MDES  
W3542 Introduction to Israeli Literature

MDES G4542 The Culture of Israeli Cinema

MDES  
W3541 Zionism: A Cultural Perspective

SOCI G4407 The Dynamics of Israeli Society

RELI W4513 Homelands, Diasporas, Promised Lands

**Gender and Judaism**

HIST W3640 Jewish Women and Family, 1000-1800

RELI V3570 Women and Judaism: Folklore or  
Religion?RELI W4504 Reading the Patriarchal and Matriarchal  
Stories in Genesis**Jewish History and Culture**

MUSI G4125 Jewish Music: Uniqueness and Diversity

RELI V3585 The Sephardic Experience

RELI W4503 Readings from the Sephardic Diaspora

RELI V2505 Intro to Judaism

RELI W4511 Jewish Ethics

HIST W3657 Medieval Jewish Cultures

HIST W4645 Spinoza to Sabbatai: Jews in Early Modern  
Europe**Jewish Literature**CLYD W3500 Readings In Jewish Literature: Humor In  
Jewish Literature (In English)

YIDD W3800 Readings in Yiddish Literature [In English]

RELI V3561 Classics fo Judaism: Ethics of the Fathers



# LANGUAGE RESOURCE CENTER

**Office:** 353 International Affairs Building; 212-854-9224  
<http://www.lrc.columbia.edu/>

**Director:** Dr. Stéphane Charitos, 353 International Affairs Building; 212-854-6341; [sc758@columbia.edu](mailto:sc758@columbia.edu)

**Associate Director:** Piero di Porzio, 353 International Affairs Building; 212-854-3326; [pdp@columbia.edu](mailto:pdp@columbia.edu)

**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

**The Institute of Latin American Studies:** 8th Floor,  
International Affairs Building; 212-854-4643  
<http://ilas.columbia.edu>

**Program Director:** Prof. José Moya, 413 Lehman;  
[jmoya@barnard.edu](mailto:jmoya@barnard.edu)

**Student Affairs Coordinator:** Eliza Kwon-Ahn, 827  
International Affairs Building; [ek2159@columbia.edu](mailto:ek2159@columbia.edu)

The major in Latin American and Caribbean Studies stresses knowledge of a dynamic, historically deep and extensive region, but it also focuses on social, political and cultural phenomena that transcend physical boundaries. The major thus reflects multidisciplinary dialogues that are transnational yet remain anchored in the common historical experience of Latin American societies. Thanks to the broad range of courses on Latin America offered in different departments of instruction and centers at Columbia, the major provides a multidisciplinary training on politics, history, culture, economy and society.

The Institute of Latin American Studies coordinates the major and offers access to research support, study abroad options, and linkages and credits toward the M.A. program in Latin American and Caribbean Studies.

## FACULTY

### AFFILIATED FACULTY

Alan Dye (<https://barnard.edu/profiles/alan-dye>) (Economics, Barnard)

Ana Paula Huback (<http://www.columbia.edu/cu/spanish/people/lecturers/huback.html>) (Latin American and Iberian Studies)

Claudio Lomnitz (<http://anthropology.columbia.edu/people/profile/368>) (Anthropology; Latino Studies; Center for the Study of Ethnicity and Race)

Nara Milanich (<https://history.barnard.edu/profiles/nmilanic>) (History, Barnard)

Jose Moya (<https://history.barnard.edu/profiles/jose-moya>) (History, Barnard)

M. Victoria Murillo (<http://polisci.columbia.edu/people/profile/100>) (Political Science)

Ana Maria Ochoa (<http://music.columbia.edu/people/bios/ochoa-ana-mar>) (Music)

Pablo Piccato (<http://history.columbia.edu/faculty/Piccato.html>) (History)

Caterina Pizzigoni (<http://history.columbia.edu/faculty/Pizzigoni.html>) (History)

Michael T. Taussig (<http://anthropology.columbia.edu/people/profile/376>) (Anthropology)

## REQUIREMENTS GUIDELINES FOR ALL LATIN AMERICAN AND CARIBBEAN STUDIES MAJORS AND CONCENTRATORS

### Declaring the Major or Concentration

For additional information on Latin American and Caribbean Studies, please visit the Institute's website (<http://ilas.columbia.edu>) or contact Eliza Kwon-Ahn, ILAS Student Affairs Coordinator at [ek2159@columbia.edu](mailto:ek2159@columbia.edu).

## MAJOR IN LATIN AMERICAN AND CARIBBEAN STUDIES

The major requires a minimum of 31 points as follows:

Select five of the following six courses:

SPAN W3300	Advanced Language through Content
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LACV C1020	Primary Texts of Latin American Civilization
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HIST W3660	Latin American Civilization I
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HIST W3661	Latin American Civilization II
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HIST W3618	The Modern Caribbean
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POLS W4461	Latin American Politics
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Select 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.

Discipline of Choice:

Select four courses in a discipline or theme of choice with substantive focus on Latin America. One of these courses must be a seminar. All students, however, need to take at least 2 courses in a discipline or theme outside of their specialization. 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.

Up to 12 credits for Discipline of Choice requirement can be earned through study abroad. Students are encouraged to explore study abroad options before their junior year. Upon return, they should submit the syllabi and all coursework related to each course taken abroad for approval by the director of undergraduate studies.

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## CONCENTRATION IN LATIN AMERICAN AND CARIBBEAN STUDIES

The concentration requires a minimum of 18 points as follows:

Select three of the following history courses, or equivalent lectures:

SPAN W3300	Advanced Language through Content (Select three of the following history courses, or equivalent lectures)
LACV C1020	Primary Texts of Latin American Civilization
HIST W3660	Latin American Civilization I
HIST W3661	Latin American Civilization II
HIST W3618	The Modern Caribbean
POLS W4461	Latin American Politics

Select 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.

Discipline of Choice:

Select two courses in a discipline or theme of choice with substantive focus on Latin America. One of these courses must be a seminar. All students, however, need to take at least 2 courses in a discipline or theme outside of their specialization. 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.

Up to 6 credits for Discipline of Choice requirement can be earned through study abroad. Students are encouraged to explore study abroad options before their junior year. Upon return, they should submit the syllabi and all coursework related to each course taken abroad for approval by the director of undergraduate studies.

## LATIN AMERICAN AND IBERIAN CULTURES

**Departmental Office:** 101 Casa Hispánica; 612 W. 116th Street; 212-854-4187; 212-854-5322 (fax)  
<http://www.columbia.edu/cu/spanish/>

**Director of Undergraduate Studies:** Jesús Rodríguez-Velasco, 301 Casa Hispánica; 212 854-8486

**Director of Graduate Studies:** Graciela Montaldo, 307 Casa Hispánica; 212-854-4882

**Co-directors of the Spanish Language Program:** Reyes Llopis García, 402 Casa Hispánica; 212-854-3764; Diana Romero, 402 Casa Hispánica; 212-854-3764

The Department of Latin American and Iberian Cultures at Columbia, located in Casa Hispánica, has long enjoyed an international reputation as a center for Hispanic and Lusophone studies. The department provides linguistic preparation in Spanish, Portuguese, and Catalan, and offers a flexible program to study 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.

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 students may either begin or continue study. Majors and concentrators in Hispanic studies and Portuguese studies are typically double majors who bring insights and methods from fields such as history, political science, women's studies, anthropology, economics, Latino studies, Latin American studies, etc., which makes for engaging discussions.

### ACADEMIC PROGRAMS

The department offers two majors. 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 a number of fields, among them Latin American studies, gender studies, political science, economics, history, and sociology. The department also offers two concentrations: Hispanic studies and Portuguese studies.

The language and major programs have also 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 departments of both

institutions for courses that 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 strongly recommends that all Hispanic and Portuguese studies majors/concentrators study abroad. Most courses taken abroad can be used to fulfill the requirements for the major and concentration, 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: Islamic Spain through the Colonial Period or SPAN W3350 Hispanic Cultures II: Enlightenment to the Present before studying abroad. Actual or potential majors and concentrators in Hispanic or Portuguese studies should seek tentative approval of their programs 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. No academic credit is given for internships.

### THE HISPANIC INSTITUTE

The department hosts the Hispanic Institute at Columbia. Founded in 1920 as the Instituto de las Españas, the Institute sponsors and disseminates research on Hispanic and Luso-Brazilian culture. Since 1934, the Institute has published

the *Revista Hispánica Moderna*, a distinguished journal in 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 who plan to continue studying Spanish are required to take the department's on-line placement examination before registering for courses. Students with prior knowledge of Portuguese or Catalan should speak with the director of language programs.

Students may be exempted from the language requirement in one of four ways:

1. Present a score of 4 or 5 on the AP Spanish Language or Spanish Literature Exams. Students who receive a score of 5 in either exam are awarded 3 AP credits upon successful completion of a 3300-level (or above) course with a grade of B or higher. AP credit is not granted for a score of 4.
2. Present a score of 780 or above on the SAT Subject Test. Students with a score lower than 780 should take the department's on-line placement exam and follow the placement advice received.
3. Present a score of a 7, 6, or 5 on the International Baccalaureate Higher Level Exam in Spanish.
4. Obtain a score of 625 or higher in the department's on-line placement exam. 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 exam 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 take the exam.

## DEPARTMENTAL HONORS

Majors interested in departmental honors should take the senior seminar in the fall of their senior year. Toward the end of the fall term, the director of undergraduate studies asks seniors to produce a senior thesis proposal. 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. 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 does not

guarantee departmental honors. Normally no more than 10% of graduating majors each year 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 Supervised Individual Research (Spring), and undertake a research project with a faculty member during their last semester. Students must identify a faculty member to supervise their project and assign the final grade. This independent study course counts toward the number of courses required to fulfill the major. Students may develop 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. See the departmental website (<http://www.columbia.edu/cu/spanish>) for more information.

## 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.

### Dr. Antonio G. Mier Prize

Awarded for excellence in Hispanic Studies to a major degree candidate in the School of General Studies at Columbia University.

## FACULTY PROFESSORS

- Carlos J. Alonso
- Patricia E. Grieve
- Graciela R. Montaldo
- Gustavo Pérez-Firmat
- Jesús Rodríguez-Velasco

## ASSOCIATE PROFESSORS

- Alberto Medina
- Alessandra Russo

## ASSISTANT PROFESSORS

- Joaquín Barriendos
- Karen Benezra
- Seth Kimmel

## SENIOR LECTURER

- Guadalupe Ruiz-Fajardo



## LECTURERS

- Lee B. Abraham
- Irene Alonso-Aparicio
- José Antonio Castellanos-Pazos
- Angelina Craig-Flórez
- Ana Paula Huback
- Juan Pablo Jiménez-Caicedo
- Reyes Llopis-García
- Francisco Meizoso
- Sonia Montero
- João Nemi Neto
- Mercedes Pérez Serrano
- Diana P. Romero
- Francisco Rosales-Varo
- Perla Rozencvaig
- José Plácido Ruiz-Campillo
- Elsa Úbeda

## REQUIREMENTS

### MAJOR IN HISPANIC STUDIES

The major in Hispanic studies requires 11 courses (minimum 33 points) as follows:

SPAN W3300 Advanced Language through Content

SPAN W3349 Hispanic Cultures I: Islamic Spain through the Colonial Period

SPAN W3350 Hispanic Cultures II: Enlightenment to the Present

Six elective courses: at least three electives must be 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; such coursework requires the director of undergraduate studies' approval. Students should consult 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; they must, however, be intensive courses: PORT W1120, PORT W1220 and PORT W1320 and/or CATL W1120 and CATL W1220. Refer to the Hispanic Studies Major and Concentration Worksheet.

SPAN W3991 Senior Seminar

or SPAN Senior Seminar  
W3992

### MAJOR IN HISPANIC STUDIES WITH SPECIALIZATION

The major in Hispanic studies with specialization requires 14 courses (minimum 42 points) as follows. Students should

consult the director of undergraduate studies to plan their program and refer to the Hispanic Studies Major and Concentration Worksheet.

SPAN W3300 Advanced Language through Content

SPAN W3349 Hispanic Cultures I: Islamic Spain through the Colonial Period

SPAN W3350 Hispanic Cultures II: Enlightenment to the Present

Three elective courses: a minimum of three electives must be from the department's 3000- or 4000- level offerings.

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. Students' transcripts reflect the discipline of specialization within Hispanic studies. Courses may include basic methodological or foundation courses in the chosen field. In special cases and with the director of undergraduate studies' approval, students may complete some coursework in another discipline closely related to the one chosen.

SPAN W3991 Senior Seminar <sup>1</sup>

or SPAN Senior Seminar  
W3992

<sup>1</sup> In exceptional cases and with the director of undergraduate studies' approval, students may take a senior seminar in their area of specialization as a seventh course outside the department, if they have completed enough foundational courses 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 complete 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.

## CONCENTRATION IN HISPANIC STUDIES

The concentration in Hispanic studies requires eight courses (minimum 24 points) as follows:

SPAN W3300 Advanced Language through Content

SPAN W3349 Hispanic Cultures I: Islamic Spain through the Colonial Period

SPAN W3350 Hispanic Cultures II: Enlightenment to the Present

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 have the director of undergraduate studies' approval and must be related to Hispanic studies. The senior seminar is not a requirement, but may be taken as an elective.

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## CONCENTRATION IN PORTUGUESE STUDIES

The concentration in Portuguese studies requires eight courses (minimum 24 points) as follows:

PORT W3101 Conversation about the Lusophone World

PORT W3330 Introduction to Portuguese Studies

PORT W3350 Lusophone Africa and Afro Brazilian Culture

Four electives: at least two must have a PORT designation and be taken from the department's 3000-level offerings. Electives taken outside of the department must have the director of undergraduate studies' approval and be related to Portuguese studies. A maximum of two courses taught in English may be counted toward the concentration overall. Refer to the Portuguese Concentration Worksheet.

## LINGUISTICS

**Program Director:** Prof. Alan Timberlake, 708 Hamilton; 212-854-3941; at2205@columbia.edu

Language is central to all human mental activity and communication. Linguistics investigates language in three ways: as a self-contained system of elements and rules of combination (sounds, words, grammar, syntax); as a component of culture and society; and as a 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. Linguistics provides an intellectual context for students who enjoy learning languages and who are fascinated by the diversity of language; linguistics then intersects with a range of academic disciplines whose subject matter, in one way or another, involves language. For this reason, linguistics is valuable for students whose primary field of study is philosophy, anthropology, music, sociology, political science, psychology, computer science, or a national literature.

The small undergraduate program in Linguistics at Columbia focuses on language usage and language diversity. Students in Linguistics at Columbia have done original research in a range of topics: internet discourse (e.g. hashtag, Tumblr), grammar of Wakhi, code-switching (e.g. trilingual, KiSwahili text-messaging, Egyptian Arabic blogs), language attitudes, prototype theory and Latino identity, evidentiality in Quechua, and more.

### STUDY ABROAD

Undergraduates have engaged in unique travel and research projects, including sign language in Nicaragua; language attitudes in Kyrgyzstan; colloquial Arabic in Cairo; summer internship at the Max Planck Institute for Evolutionary Biology; and study abroad to Spain, England, India, Hungary, and Ireland.

### GRADUATE STUDY

Columbia's linguists have distinguished themselves with awards and plans after graduation, such as Fulbright Fellowships to France, Georgia, and Turkey; and graduate study of linguistics or psychology at Harvard, Stanford, UCSD, Northwestern, New York University, and SUNY Buffalo. Linguistics is also a natural background for the law, and our students have entered such law schools as Georgetown and Columbia.

There is no graduate program in linguistics at Columbia. Students interested in pursuing graduate study in linguistics in New York should investigate CUNY Graduate Center, New York University, or Teachers College (applied linguistics).

## THE COLUMBIA LINGUISTICS SOCIETY

The Columbia Linguistics Society is an organization of undergraduates interested in linguistics which sponsors lectures and hosts informal social events. Information is available at <http://columbialinguistics.wordpress.com/> or through Facebook.

### FACULTY

#### AFFILIATED FACULTY

- May Ahmar (Arabic; MESAAS)
- Akeel Bilgrami (Philosophy)
- Aaron Fox (Music)
- Haim Gaifman (Philosophy)
- Boris Gasparov (Slavic)
- Tiina Haapakoski (Finnish, Germanic Languages)
- Julia Hirschberg (Computer Science)
- Ana Paula Huback (Latin American and Iberian Studies)
- Rina Kreitman (Hebrew; MESAAS)
- Karen Lewis (Philosophy, Barnard)
- 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)
- Michele Miozzo (Psychology)
- Fumiko Nazikian (Japanese; East Asian Languages and Cultures)
- Youssef Nouhi (Arabic; MESAAS)
- Christopher Peacocke (Philosophy)
- Owen Rambow (Center for Computational Learning Systems)
- Robert Remez (Psychology, Barnard)
- Francisco Rosales-Varo (Latin American and Iberian Studies)
- Carol Rounds (Hungarian; Italian)
- José Plácido Ruiz-Campillo (Latin American and Iberian Studies)
- Richard Sacks (English and Comparative Literature)
- Ann Senghas (Psychology, Barnard)
- Mariame Sy (Wolof; Pulaar; MESAAS)
- Alan Timberlake (Slavic)
- Zhirong Wang (Chinese; East Asian Languages and Cultures)

## REQUIREMENTS

### 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 in the linguistics program as follows:

The special concentration in linguistics is not sufficient for graduation in and of itself. It must be taken in conjunction with a major in another discipline. Students must take 18 points in the linguistics program as follows:

1. Three core courses in linguistics chosen from:

LING W3101	Introduction to Linguistics
ANTH V3906	Functional Linguistics and Language Typology
LING W4120	Language Documentation and Field Methods
LING W4108	Language History
LING W4190	Discourse and Pragmatics
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 (Section 1)	
ENGL W4901	History of the English Language
HNGR W3343	Hungarian Descriptive Grammar

2. Two additional courses in either linguistics 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 Symbolic Logic

PHIL V3685 Philosophy of Language

PHIL G4490 Language and Mind

#### Anthropology

ANTH V3044 Symbolic Anthropology

ANTH W4042 Agent, Person, Subject, Self

ANTH G6125 Language, Culture and Power

#### Psychology

PSYC W2440 Language and the Brain

PSYC W2450 Behavioral Neuroscience

PSYC W3265 Auditory Perception (Seminar)

PSYC BC3164 Perception and Language

PSYC BC3369 Language Development

PSYC W2215 Cognition and the Brain

#### Computer Science

COMS W3261 Computer Science Theory

COMS W4705 Natural Language Processing

COMS W4706 Spoken Language Processing

COMS E6998 Topics in Computer Science

#### Sociology

SOCI G4030 Sociology of Language

#### Music

MUSI W4405 Music and Language

MSPS G4233 Language and Music (Seminar)

#### French

FREN BC3011 History of the French Language

3. One language course at the intermediate level (third-semester), separate from the general language requirement.

Students interested in a major in linguistics should consult with the director of undergraduate studies, Alan Timberlake (at2205@columbia.edu).

## 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 semi-native) 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. See the list of languages offered through the Language Resource Center and consult with the program director about other languages to determine if they are acceptable for the linguistics language requirement.

- Ancient Egyptian
- Anglo-Saxon
- Aramaic
- Bosnian/Croatian/Serbian
- Cantonese
- Chagatay
- Czech
- Finnish
- Georgian
- Indonesian
- Irish
- Kannada
- Kazakh
- Nahuatl
- Nepali
  
- Old Church Slavonic
- Quechua
- Polish
- Pulaar
- Romanian
- Sumerian
- Swahili
- Syriac
- Tajik
- Tamil
- Telugu
- Ukrainian
- Uzbek
- Wolof
- Zulu



# MATHEMATICS

**Departmental Office:** 410 Mathematics; 212-854-2432  
<http://www.math.columbia.edu/>

**Director of Undergraduate Studies:** Prof. Panagiota Daskalopoulos, 526 Mathematics; 212-854-4756;  
 pdaskalo@math.columbia.edu

**Departmental Adviser:** Prof. Mu-Tao Wang, 514 Mathematics; 212-854-3052; mtwang@math.columbia.edu

**Computer Science-Mathematics Adviser:** Prof. Patrick X. Gallagher, 411 Mathematics; 212-854-4346;  
 pxg@math.columbia.edu

## Economics-Mathematics Advisers:

*Mathematics:* Prof. Julien Dubedat, 601 Mathematics; 212-854-8806; jd2653@columbia.edu

*Economics:* Dr. Susan Elmes, 1006 International Affairs Building; 212-854-9124; se5@columbia.edu

## Mathematics-Statistics Advisers:

*Mathematics:* Prof. Julien Dubedat, 601 Mathematics; 212-854-8806; dubedat@math.columbia.edu

*Statistics:* Prof. Daniel Rabinowitz, 1244 Amsterdam Avenue, Room 1014; 212-851-2141; dan@stat.columbia.edu

**Calculus Director:** Prof. Robert Lipshitz, 625 Mathematics; 212-854-2658 lipshitz@math.columbia.edu

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 of a level 2000 or higher and 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 PHIL V3411 Symbolic Logic, in the Philosophy Department, or COMS W3203 Discrete Mathematics: Introduction to Combinatorics and Graph Theory, 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:

MATH V1101	Calculus I and Calculus II
- MATH V1102	and Calculus III and Calculus IV
- MATH V1201	
- MATH V1202	
MATH V1207	Honors Mathematics A and Honors Mathematics B
- 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 (MATH V1201 Calculus III-MATH V1202 Calculus IV) and linear algebra (MATH V2010 Linear Algebra), with an emphasis on theory.

MATH W1003 College Algebra and Analytic Geometry 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 or 5 on the AP Calculus AB exam provided students complete MATH V1102 Calculus II or MATH V1201 Calculus III with a grade of C or better. The department grants 3 credits for a

score of 4 on the AP Calculus BC exam provided students complete MATH V1102 Calculus II or MATH V1201 Calculus III with a grade of C or better. The department grants 6 credits for a score of 5 on the AP Calculus BC exam provided students complete MATH V1201 Calculus III or MATH V1207 Honors Mathematics A 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 and III

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 may begin with either *Calculus II* or *Calculus III*. Note that such students who decide to start with *Calculus III* may still need to take *Calculus II* since it is a requirement or prerequisite for other courses. In particular, they **MUST** take *Calculus II* before going on to *Calculus IV*. Students with a score of 5 on the BC exam may begin with *Calculus III* and do not need to take *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 *Calculus II* 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 upon completion of *Calculus III* with a grade of C or higher.

### 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 on 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. Students

who are doing a double major cannot double count courses for their majors.

## DEPARTMENTAL HONORS

In order to be eligible for departmental honors, majors must write a senior thesis. Normally no more than 10% of the graduating majors each year may receive departmental honors.

## FACULTY PROFESSORS

- David A. Bayer (Barnard)
- Panagiota Daskalopoulos
- Aise Johan de Jong
- Robert Friedman
- Patrick X. Gallagher
- Dorian Goldfeld
- Brian Greene
- Richard Hamilton
- Michael Harris
- Troels Jørgensen
- Ioannis Karatzas
- Mikhail Khovanov
- Igor Krichever
- Chiu-Chu Liu
- Dusa McDuff (Barnard)
- Davesh Maulik
- Walter Neumann (Barnard)
- Andrei Okounkov
- D. H. Phong
- Henry Pinkham (Chair)
- Ovidiu Savin
- Eric Urban
- Mu-Tao Wang

## ASSOCIATE PROFESSORS

- Mohammed Abouzaid
- Ivan Corwin
- Julien Dubedat
- Robert Lipshitz
- Michael Thaddeus
- Wei Zhang

## ASSISTANT PROFESSORS

- Daniela De Silva (Barnard)
- Rachel Ollivier

## J. F. RITT ASSISTANT PROFESSORS

- Salim Altug
- Hector Chang

- Po-Ning Chen
- Qile Chen
- Anand Deopurkar
- Gabriele Di Cerbo
- Luis Diogo
- Alexander Drewitz
- Sachin Gautam
- Evgeny Gorskiy
- David Hansen
- Jennifer Hom
- BoGwang Jeon
- Paul Siegel
- Xin Wan
- Michael Woodbury
- Anton Zeitlin
- Xiangwen Zhang

## SENIOR LECTURERS IN DISCIPLINE

- Lars Nielsen
- Mikhail Smirnov
- Peter Woit

## ON LEAVE

- Profs. Po-Ning Chen, Corwin, Friedman, Harris, Jørgensen, Karatzas, Krichever, Ollivier, Wang (2014-2015)
- Profs. Friedman, Harris (Fall 2014)
- Profs. Corwin, Po-Ning Chen (Spring 2015)

## REQUIREMENTS MAJOR IN MATHEMATICS

The major requires 42 points as follows:

12 points in Calculus or Honors Mathematics A-B, including Advanced Placement credit.

18 points in mathematics courses numbered 2000 and above, including the following courses:

MATH V2010 Linear Algebra (if Honors Mathematics A-B is not taken)

MATH W4041 - MATH W4042 Introduction to Modern Algebra and Introduction to Modern Algebra

MATH W4061 - MATH W4062 Introduction To Modern Analysis and Introduction To Modern Analysis \*

MATH V3951 - MATH V3952 Undergraduate Seminars in Mathematics and Undergraduate Seminars in Mathematics (at least one term)

12 points in any combination of mathematics and cognate courses. \*\*

\* Students who are not contemplating graduate study in mathematics may replace one or both of the two terms of MATH W4061- MATH W4062 Introduction To Modern Analysis by one or two of the following courses: MATH V2500 Analysis and Optimization, MATH V3007 Complex Variables, MATH V3028 Partial Differential Equations, or MATH W4032 Fourier Analysis.

\*\* 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 and is of a level 2000 or higher, or (b) the subject matter in the course is mathematics beyond an elementary level, such as PHIL V3411 Symbolic Logic, in the Philosophy Department, or COMS W3203 Discrete Mathematics: Introduction to Combinatorics and Graph Theory, 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.

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.

## MAJOR IN APPLIED MATHEMATICS

The major requires 40 points as follows:

12 points in Calculus or Honors Mathematics A-B

MATH V2010 Linear Algebra

Select one of the following:

MATH W4061 Introduction To Modern Analysis

MATH V2500 Analysis and Optimization

MATH W4032 Fourier Analysis

APMA E4901 Seminar: Problems In Applied Mathematics (junior year)

APMA E4903 Seminar: Problems in Applied Mathematics (senior year)

18 points in electives, selected from the following (other courses may be used with the approval of the Applied Mathematics Committee):

MATH V2500 Analysis and Optimization

MATH V3007 Complex Variables

or MATH W4065 Honors Complex Variables

or APMA E4204 Functions of a Complex Variable

MATH V3027 Ordinary Differential Equations

MATH V3028 Partial Differential Equations

or APMA E4200 Partial Differential Equations

or APMA E6301 Analytic methods for partial differential equations

MATH W4032 Fourier Analysis

APMA E4300 Introduction to Numerical Methods

APMA E4101 Introduction to Dynamical Systems

APMA E4150 Applied Functional Analysis

APMA E4400 Introduction to Biophysical Modeling

## 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.

The major 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.

### Computer Science

COMS W1007 Honors Introduction to Computer Science

COMS W3137 Honors Data Structures and Algorithms

COMS W3157 Advanced Programming

COMS W3203 Discrete Mathematics: Introduction to Combinatorics and Graph Theory

COMS W3261 Computer Science Theory

CSEE W3827 Fundamentals of Computer Systems

### Mathematics

Select one of the following sequences:

MATH V1101 Calculus I and Calculus II  
- MATH V1102 and Calculus III and Calculus IV

- MATH V1201  
- MATH V1202

MATH V1207 Honors Mathematics A and Honors Mathematics B  
- MATH V1208

MATH V2010 Linear Algebra (unless MATH V1207 and MATH V1208 are taken)

MATH W4041 Introduction to Modern Algebra

MATH V3951 Undergraduate Seminars in Mathematics

or MATH V3952 Undergraduate Seminars in Mathematics

### Electives

Select two of the following:

CSOR W4231 Analysis of Algorithms I

COMS W4241 Numerical Algorithms and Complexity

MATH V3020 Number Theory and Cryptography

MATH BC2006 Combinatorics

MATH W4061 Introduction To Modern Analysis

MATH V2500 Analysis and Optimization

MATH V3007 Complex Variables

MATH V3386 Differential Geometry

MATH W4051 Topology

## MAJOR IN ECONOMICS-MATHEMATICS

For a description of the joint major in economics-mathematics, see the *Economics* section of this bulletin.

For a description of the joint major in economics-mathematics, see the *Economics* section of this bulletin.

## 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.

### Mathematics

Select one of the following sequences:

- MATH V1101 Calculus I and Calculus II
- MATH V1102 and Calculus III and Linear Algebra
- MATH V1201 and Analysis and Optimization
- MATH V2010
- MATH V2500

- MATH V1207 Honors Mathematics A and Honors Mathematics B
- MATH V1208 and Analysis and Optimization (with approval from the adviser)
- MATH V2500

### Statistics

Select one of the following:

- STAT W1211 Introduction to Statistics (with calculus)
- STAT W1001 Introduction to Statistical Reasoning
- STAT W1111 Introduction to Statistics (without calculus)

- STAT W3105 Introduction to Probability
- STAT W3107 Introduction to Statistical Inference
- STAT W3315 Linear Regression Models

Select one of the following:

- STAT W4606 Elementary Stochastic Processes

- STAT W4840 Theory of Interest

- STAT W4635 Stochastic Processes for Finance

- STAT G6505 Stochastic Methods In Finance

### Computer Science

Select one of the following:

- COMS W1004 Introduction to Computer Science and Programming in Java

- COMS W1005 Introduction to Computer Science and Programming in MATLAB

- COMS W1007 Honors Introduction to Computer Science

An advanced computer science offering in programming

### 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 Ordinary Differential Equations and MATH V3028 Partial Differential Equations.

Students interested in finance are recommended to take MATH W4071 Introduction to the Mathematics of Finance, STAT W4290 Statistical Methods in Finance, and STAT W4437 Time Series Analysis.

Students interested in graduate study in mathematics or in statistics are recommended to take MATH W4061 Introduction To Modern Analysis and MATH W4062 Introduction To Modern Analysis.

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 Introduction to Probability with STAT W4105 Introduction to Probability, STAT W3107 Introduction to Statistical Inference with STAT W4107 Introduction to Statistical Inference, and STAT W3315 Linear Regression Models with STAT W4315 Linear Regression Models or STAT W4440 Linear Regression and Time Series Methods.

Students may also replace STAT W3105 Introduction to Probability and STAT W3107 Introduction to Statistical Inference with the combined course STAT W4109 Introduction to Probability and Statistics.



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## CONCENTRATION IN MATHEMATICS

The concentration requires the following:

### Mathematics

Select one of the two following multivariable calculus and linear algebra sequences:

MATH     Calculus III  
V1201     and Calculus IV  
- MATH     and Linear Algebra  
V1202  
- MATH  
V2010

MATH     Honors Mathematics A  
V1207     and Honors Mathematics B  
- MATH  
V1208

### Additional Courses

Select 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.

# MEDIÉVAL AND RENAISSANCE STUDIES

**Program Director:** Prof. Alan Stewart, 617 Philosophy; 212-854-6420; ags2105@columbia.edu

**Program Administrator:** Dr. Gania Barlow, 616 Philosophy; 212-854-5789; medren@columbia.edu

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
- Latin American and Iberian Cultures
- Music
- Philosophy
- Religion

For more information about the special concentration in Medieval and Renaissance Studies, visit: <http://medren.columbia.edu/>.

## FACULTY

### EXECUTIVE COMMITTEE OF THE INTERDEPARTMENTAL COMMITTEE ON MEDIÉVAL AND RENAISSANCE STUDIES

- Alan Stewart (English and Comparative Literature, Chair)
- Christopher Baswell (English and Comparative Literature)
- Susan Boynton (Music)
- Consuelo Dutschke (Rare Book and Manuscript Library)
- Carmela Franklin (Classics)
- Matthew Jones (History)
- Holger Klein (Art History)
- Adam Kosto (History)
- Christia Mercer (Philosophy)
- Jesus Rodriguez-Velasco (Latin American and Iberian Cultures)
- Pamela Smith (History)

## REQUIREMENTS SPECIAL CONCENTRATION IN MEDIÉVAL AND RENAISSANCE STUDIES

Students considering the special concentration in Medieval and Renaissance Studies should consult with the director in advance of course registration to ensure that their selection of courses will count towards the special concentration.

In addition to fulfilling the requirements for a departmental major or concentration, students with this special concentration should plan on taking an additional 12 points of courses in other departments of the program, to be chosen in consultation with an appropriate member of the committee.

In addition to fulfilling the requirements for a departmental major, students should plan on taking 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 V1201 Intermediate Latin I or LATN V1202 Intermediate Latin II) 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 special concentration.

# MIDDLE EASTERN, SOUTH ASIAN, AND AFRICAN STUDIES

**Departmental Office:** 401 Knox; 212-854-2556  
<http://www.columbia.edu/cu/mesaas/>

**Director of Undergraduate Studies:** Kai Kresse, 513 Knox;  
212-854-4766; [kk2918@columbia.edu](mailto:kk2918@columbia.edu)

## Language Coordinators:

*African languages:* Mariame Sy, 408 Knox; 212-851-2439;  
[sms2168@columbia.edu](mailto:sms2168@columbia.edu)

*Arabic:* Taoufik Ben Amor, 308 Knox; 212-854-2985;  
[tb46@columbia.edu](mailto:tb46@columbia.edu)

*Armenian:* Charry Karamanoukian, 407 Knox; 212-851-4002;  
[ck2444@columbia.edu](mailto:ck2444@columbia.edu)

*Hebrew:* Rina Kreitman, 411 Knox; 212-854-6519;  
[rk2617@columbia.edu](mailto:rk2617@columbia.edu)

*Hindi/Urdu:* Rakesh Ranjan, 409 Knox; 212-851-4107;  
[rr2574@columbia.edu](mailto:rr2574@columbia.edu)

*Persian:* Ghazzal Dabiri, 412 Knox; 212-854-6664;  
[gd2287@columbia.edu](mailto:gd2287@columbia.edu)

*Sanskrit:* Guy Leavitt, 311 Knox; 212-854-1304;  
[gl2392@columbia.edu](mailto:gl2392@columbia.edu)

*Tamil:* D. Samuel Sudanandha, 305 Knox; 212-854-4702;  
[dss2121@columbia.edu](mailto:dss2121@columbia.edu)

*Turkish:* Zuleyha Colak, 412 Knox; 212-854-0473;  
[zc2208@columbia.edu](mailto:zc2208@columbia.edu)

The undergraduate program in Middle Eastern, South Asian, and African studies (MESAAS) offers students the opportunity to study in depth the cultures, ideas, histories, and politics of several overlapping world regions. The program emphasizes a close engagement with intellectual traditions, creative movements, and political debates, drawing on a wide variety of historical and contemporary sources in literature, religion, political thought, law, 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 AND CONCENTRATIONS

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, because the aim is to study a cultural field through its own texts and discourses. The Department of Middle Eastern, South Asian, and African Studies offers courses in Arabic, Persian, Turkish, Hebrew, Armenian, Sanskrit, Hindi/Urdu, Bengali, Tamil, Swahili, Wolof, and Zulu.

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 relevant fields in the humanities and social sciences, such as literary criticism, film studies, cultural studies, political theory, and intellectual history.

The only difference between the MESAAS major and the concentration is that the latter does not require language proficiency.

## FACULTY PROFESSORS

- Muhsin J. Ali al-Musawi
- Partha Chatterjee
- Hamid Dabashi
- Mamadou Diouf
- Wael Hallaq
- Sudipta Kaviraj
- Rashid Khalidi
- Mahmood Mamdani
- Joseph Massad
- Brinkley Messick
- Dan Miron
- Timothy Mitchell
- Sheldon Pollock
- Frances Pritchett (*emeritus*)
- George Saliba

## ASSOCIATE PROFESSORS

- Gil Anidjar
- Allison Busch
- Kai Kresse

## ASSISTANT PROFESSORS

- Nanor Kebranian
- Mana Kia

## SENIOR LECTURERS

- Taoufik Ben Amor
- Abdul Nanji
- Rakesh Ranjan

## LECTURERS

- Oujidane Absi
- Aftab Ahmad
- May Ahmar
- Leyla Amzi-Erdogdular
- Ghada Badawi
- Tarik Belhoussein
- Nehama Bersohn

- Rym Bettaieb
- Jane Clayton
- Ihsan Colak
- Zuleyha Colak
- Ghazzal Dabiri
- Reem Faraj
- Charry Karamanoukian
- Rina Kreitman
- Youssef Nouhi
- Dalpat Rajpurohit
- D. Samuel Sudanandha
- Mariame Sy

## NIKIT AND ELEANORA ORJANIAN VISITING PROFESSOR

- Helen Evans (*Fall 2014*)

## ON LEAVE

- Prof. Kebranian (*Fall 2014*)
- Profs. Chatterjee, Khalidi, Mamdani, Massad, Messick, Miron, Pollock (*Spring 2015*)

## REQUIREMENTS

### GUIDELINES FOR ALL MIDDLE EASTERN, SOUTH ASIAN, AND AFRICAN STUDIES MAJORS AND CONCENTRATORS

#### Introduction to MESAAS

Majors and concentrators begin their work with an introductory course that emphasizes a particular area (the Middle East, South Asia, or Africa). For instance, students interested in the Middle East would take ASCM V2003 Introduction to Islamic Civilization or ASCM V2008 Contemporary Islamic Civilization. Students keen on learning more about South Asia would take ASCM V2357 Introduction to the Civilization of India, HSME W3810 History of South Asia I: al-Hind to Hindustan, or HIST W3811 South Asia II: Empire and Its Aftermath. The introductory course generally recommended for students interested in Africa is MDES W2030 Major Debates in the Study of Africa.

#### Required Core Courses

All majors must take two additional core courses. The first is a small seminar in which they explore some of the classic texts of the region, either AHUM V3399 Major Texts: Middle East/India (for those focusing on the Middle East and South Asia) or AFCV C1020 African Civilizations (for those focusing on Africa).

With this background, students are ready to take, generally in the junior or senior year, MDES W3000 Theory and

Culture. This course examines critical approaches to the study of language, culture, and politics and encourages students to reflect on their own work from many different perspectives.

#### Additional Requirements

Fifteen additional points (generally five courses) are chosen in consultation with the director of undergraduate studies. These may include six points of coursework from other departments, subject the director of undergraduate studies' approval. Although students may have a particular interest (e.g., Arab political thought, Urdu literature, Armenian history, Iranian cinema, or contemporary West Africa), they are encouraged to gain exposure to the fullest range of courses and approaches offered by the faculty, and to familiarize themselves with other regions beyond their core area.

#### In Fulfillment of the Language Requirement (for Majors)

Enrollment in language courses is in some cases determined by placement exams. For more information, see *Languages* on the departmental website (<http://www.columbia.edu/cu/ mesaas>) and, if necessary, consult the relevant Coordinator listed on that page. The website includes separate pages for each language, describing the program of instruction, courses for heritage speakers, summer language programs, and more. Language courses must be taken for a letter grade. Pass/D/Fail or Registration credit (R) is not permitted. Those seeking to waive a language requirement must take a proficiency test.

Students who enter with language proficiency at only the second-year level must complete one additional year of language study and one additional MESAAS course. When students enter with language proficiency at the third year level (or in cases where only two years of a particular language are offered in MESAAS), they must substitute three additional MESAAS courses.

#### 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 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, approval for courses in other departments or schools, study abroad, and, eventually, honors requirements (including the senior thesis). Students should not hesitate to contact the director of undergraduate studies to set up an appointment.

#### 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

Students may also wish to write a thesis. While not required for graduation, the thesis enables a student to be considered for departmental honors. It is advisable to begin planning for the thesis during the student's junior year. Interested students should attend the relevant information sessions and identify a potential faculty adviser.

All students who wish to write a thesis must enroll in MDES W3960 MESAAS Honors Thesis Seminar, a full year course consisting of a 1-point segment in the Fall semester and a 3-point segment in the Spring semester. Students work closely with their peers in a supportive environment to produce a substantial piece of research (in the range of 40 pages). The primary intellectual guidance is provided by the faculty adviser, whereas the director of undergraduate studies and the honors seminar teaching assistant oversee the general development of the project. Every year in April, MESAAS hosts a senior colloquium in which students present their research. For more information on the honors program, see *Frequently Asked Questions* on the departmental website (<http://www.columbia.edu/cu/mesaas>).

For additional guidelines, see *Departmental Honors* as outlined in the *Academic Honors, Prizes, and Fellowships* section of the Columbia College Bulletin.

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## MAJOR IN MIDDLE EASTERN, SOUTH ASIAN, AND AFRICAN STUDIES

Students should obtain a Major Declaration ([https://www.studentaffairs.columbia.edu/sites/dsa/files/forms/CC%20major%20declaration\\_1.pdf](https://www.studentaffairs.columbia.edu/sites/dsa/files/forms/CC%20major%20declaration_1.pdf)) 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:

Select a one-term introductory culture course, to be approved by the director of undergraduate studies

AHUM Major Texts: Middle East/India  
V3399

or AFCV African Civilizations  
C1020

MDES Theory and Culture  
W3000

Select 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

Select 15 points of coursework, which may include up to six points from other departments, selected in consultation with the director of undergraduate studies

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## 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 department 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.

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## MAJOR IN AFRICAN STUDIES

Students who have declared a major in African Studies prior to Spring 2014 must follow the requirements below.

The African Studies major requires 12 courses and a semester in Africa as follows:

MDES Major Debates in the Study of Africa  
W2030

Select four semesters (2 years) of study of an African language: Arabic, Pulaar, Swahili, Wolof and Zulu are currently offered

Select 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

Select two Africa-related courses from another department in the list above

Select 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://ogp.columbia.edu/>.

Students who declare a major in Spring 2014 and beyond, and are mainly interested in the study of Africa should declare a major in Middle Eastern, South Asian, and African Studies, and follow a program of courses that focus on Africa.

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## CONCENTRATION IN AFRICAN STUDIES

Students who have declared a concentration in African Studies prior to Spring 2014, i.e. students in the class of 2015, must follow the requirements below.

The African Studies concentration requires 7 courses as follows:

MDES            Major Debates in the Study of Africa  
W2030

Select three Africa-related courses from the departments listed for the major

Select one Africa-related course from another department listed for the major

Select two semesters (1 year) of study of an African language

Select one semester of study or research in Africa is strongly encouraged

Students who declare a concentration in Spring 2014 and beyond, i.e. students in the class of 2016, 2017, and 2018, and who are mainly interested in the study of Africa should declare a concentration in Middle Eastern, South Asian, and African Studies, and follow a program of courses that focus on Africa.

## MUSIC

**Departmental Office:** 621 Dodge; 212-854-3825  
<http://www.music.columbia.edu/>

**Director of Undergraduate Studies:** Prof. Bradford Garton, 807 Dodge; 212-854-2261; [garton@columbia.edu](mailto:garton@columbia.edu)

**Music Humanities Chair:** Prof. Elaine Sisman, 604 Dodge; 212-854-7728; [es53@columbia.edu](mailto:es53@columbia.edu)@columbia.edu (Fall 2014); Prof. Walter Frisch, 613 Dodge; 212-854-1256; [wf8@columbia.edu](mailto:wf8@columbia.edu) (Spring 2015)

**Music Performance Program Director:** Prof. Magdalena Stern-Baczewska, 618A Dodge; 212-854-2348; [mb3713@columbia.edu](mailto:mb3713@columbia.edu)

The music major provides aspiring musicians and/or scholars with a wide range of ways to think about music (performance-related, theoretical, historical, cultural, and compositional) and to concentrate on the aspects of music that most interest them—from popular and world music to computer music. Our faculty engage in cultural studies (i.e., ethnomusicology) and with current literary theory, connect with faculty of other departments (i.e., English, Philosophy, and Psychology), and are on the cutting edge of technological change. Students who have a passion for music and who have already developed basic skills in areas including performance, music history, composition, or ethnography, should consider a major in music.

### MUSIC PERFORMANCE

For information on auditions, registration, and other aspects of performance not included below, visit <http://www.music.columbia.edu/mpp> or contact Prof. Director of the Music Performance Program, in 618 Dodge, 212-854-1257.

Students with questions about the Columbia-Juilliard programs should consult *Special Programs* in this bulletin or contact Rebecca Schiavo, 212-851-9478, [rab2195@columbia.edu](mailto:rab2195@columbia.edu).

### 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 in the case of voice lessons at Barnard College, one full hour per week 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 one point per semester for these courses as listed.

- *Columbia University Orchestra* – Jeffrey Milarsky, Conductor

See *MUSI V1591 University Orchestra- MUSI V1592 University Orchestra* for audition and activity information.

- *Chamber Music Ensemble* – Magdalena Stern-Baczewska, Director, *Music Performance Program*  
See *MUSI V1598 Chamber Ensemble - MUSI V1599 Chamber Ensemble* for audition and activity information.
- *Barnard-Columbia Chorus and Chamber Singers* – Gail Archer, Director  
See *MUSI V1593 Barnard-Columbia Chorus - MUSI V1594 Barnard-Columbia Chorus and MUSI V1595 Barnard-Columbia Chamber Singers - MUSI V1596 Barnard-Columbia Chamber Singers* for audition and activity information.
- *Collegium Musicum* – Anne Levitsky, Director  
See *MUSI V1580 Collegium Musicum - MUSI V1581 Collegium Musicum* for audition and activity information.
- *Jazz Ensembles* – Christopher Washburne, Director  
See *MUSI V1618 Columbia University Jazz Ensemble - MUSI V1619 Columbia University Jazz Ensemble* for audition and activity information.
- *World Music Ensembles* – Ana Maria Ochoa, Director, *Center for Ethnomusicology*  
See the Music Performance website for audition and activity information about all of the above as well as Bluegrass, Gagaku, Hogaku, Klezmer, Latin, Afro-Cuban, and Middle Eastern ensembles.

### PRACTICE ROOMS

Piano practice rooms in the Broadway and East Campus dormitories may be reserved annually by students living in any of the Columbia University dormitories, at a nominal fee. Applications will be accepted during the second week of classes in the main Music Department office, 621 Dodge Hall. Schapiro Hall also has seven “walk-in” practice rooms that are assigned on a first-come, first-served basis. No fee is required for Schapiro Practice Rooms, and those are open to anyone with a valid CU or affiliate ID. The organ studio in St. Paul’s Chapel is available for organ practice for students taking organ lessons. 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 senior year. A formal written proposal is required. Normally no more than 10% of the graduating majors in the department each year may receive departmental honors.

## FACULTY PROFESSORS

- Susan Boynton
- Joseph Dubiel
- Walter Frisch
- Brad Garton
- Georg Friedrich Haas
- Ellie Hisama
- Fred Lerdahl
- George Lewis
- Elaine Sisman

## ASSOCIATE PROFESSORS

- Aaron Fox
- Giuseppe Gerbino
- Ana Maria Ochoa
- Christopher Washburne

## ASSISTANT PROFESSORS

- Sophia di Castri
- Kevin A. Fellezs
- Mariusz Kozak
- Benjamin Steege

## COORDINATOR OF MUSICIANSHIP

- Peter Susser

## LECTURERS

- Melissa Bilal
- Deborah Bradley-Kramer
- Julia Doe
- Ashley Fure
- Jeffrey Milarsky
- Ashley Nail
- Martha Newland
- Bryan Parkhurst
- Magdalena Stern-Baczewska

## ASSOCIATES IN MUSIC PERFORMANCE

- Sarah Adams
- Gail Archer (Barnard)
- Eliot Bailen
- Bruce Barth
- Cyrus S. Beroukhim
- Allen Blustine
- Vicki Bodner
- Paul Bollenback

- Yari Bond
- Patrick Calleo
- Marco Cappelli
- Vince Cherico
- Christine Correa
- Sebastian Cruz
- Adriano dos Santos
- Amir Elsaffar
- David Fulmer
- Brad Gemeinhardt
- John David Gibson
- June Han
- Brad Jones
- Sue Ann Kahn
- Arthur Kampela
- James Kerr
- Lisa Kim
- Min-Young Kim
- Victor Lin
- Ole Mathisen
- Andy Milne
- Tony Moreno
- Ah-Ling Neu
- Ugonna Okegwo
- Niels J. Østbye
- Muneko Otani
- Susan Palma-Nidel
- Richard Rood
- Susan Rotholz
- Louise Sasaki
- John Nyoraku Schlefer
- Michael Seltzer
- Don Sickler
- Raymond Stewart
- Michael Skelly
- Wendy Sutter
- Jessica Thompson
- Masayo Ishigure Tokue
- Leo Traversa
- Michael Truesdell
- Reiko Uchida
- Jeffrey Warschauer
- James Wilson

## ON LEAVE

- Profs. Gerbino, Steege (*2014-2015*)
- Profs. Frisch, Lerdahl (*Fall 2014*)
- Prof. Ochoa (*Spring 2015*)

## REQUIREMENTS

### MAJOR IN MUSIC

A program of study should be planned with the director of undergraduate studies in the first semester of sophomore year. Students planning to focus on a particular area (e.g., computer music, composition, ethnomusicology, music theory, or music history) 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 Fundamentals of Music and MUSI V1312 Introductory Ear Training. These requirements may be fulfilled either through successful completion of the courses or through satisfactory performance on exemption exams administered at the beginning of each semester by the department.

All music majors are required to take a keyboard proficiency exam upon entrance into the first semester of theory. Those who do not pass the exam are required to take *MUSI W1517 Keyboard Harmony and Musicianship*- *MUSI W1518 Keyboard Harmony and Musicianship* for 1 point each term. For students who plan to do graduate work in music, studying German, French, Italian, and/or Latin is recommended.

The major requires a minimum of 40 points including:

MUSI V2318 Music Theory I  
- MUSI and Music Theory II  
V2319

MUSI V3321 Music Theory III  
- MUSI and Music Theory IV  
V3322

Select four terms of ear training from the following:

MUSI Ear Training, I  
V2314 and Ear Training, II  
- MUSI  
V2315

MUSI Ear Training, III  
V3316 and Ear Training, IV  
- MUSI  
V3317

MUSI Ear Training, V  
W4318

MUSI V3128 History of Western Music I: Middle Ages  
- MUSI To Baroque  
V3129 and History of Western Music II: Classical  
To the 20th Century

MUSI V3400 Topics in Music and Society

At least two 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 University Orchestra  
- MUSI and University Orchestra  
V1592

MUSI V1598 Chamber Ensemble  
- MUSI and Chamber Ensemble  
V1599

MUSI V1618 Columbia University Jazz Ensemble  
- MUSI and Columbia University Jazz Ensemble  
V1619

MUSI V1624 and World Music Ensemble  
- MUSI  
V1625

3. *MUSI W1517 Keyboard Harmony and Musicianship*-  
*MUSI W1518 Keyboard Harmony and Musicianship* ,  
when necessary, count against the 4-point maximum in  
performance before any other lessons

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## CONCENTRATION IN MUSIC

A program of study should be planned with the director of undergraduate studies in the first semester of 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 Fundamentals of Music* and *MUSI V1312 Introductory Ear Training*. 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.

The concentration requires a minimum of 28 points including:

MUSI V2318 Music Theory I  
- MUSI and Music Theory II  
V2319

MUSI V3321 Music Theory III  
- MUSI and Music Theory IV  
V3322

Select four terms of ear training from the following:

MUSI Ear Training, I  
V2314 and  
- MUSI  
V2315

MUSI Ear Training, III  
V3316 and Ear Training, IV  
- MUSI  
V3317

MUSI Ear Training, V  
W4318 and (if offered)  
- MUSI  
W4319

MUSI V3128 History of Western Music I: Middle Ages  
 - MUSI To Baroque  
 V3129 and History of Western Music II: Classical  
 To the 20th Century

MUSI V3400 Topics in Music and Society

At least one additional course at the 3000- or 4000- level

No more than 4 points of instrumental or vocal lessons or participation for a letter grade in:

MUSI University Orchestra  
 V1591 and University Orchestra  
 - MUSI  
 V1592

MUSI Chamber Ensemble  
 V1598 and Chamber Ensemble  
 - MUSI  
 V1599

MUSI Columbia University Jazz Ensemble  
 V1618 and Columbia University Jazz Ensemble  
 - MUSI  
 V1619

MUSI and World Music Ensemble  
 V1624  
 - MUSI  
 V1625

MUSI W1517 Keyboard Harmony and Musicianship  
 - MUSI and Keyboard Harmony and Musicianship  
 W1518 \*

\* When necessary, count against the 4-point maximum in performance before any other lessons

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## SPECIAL CONCENTRATION IN JAZZ STUDIES

Students interested in a special concentration in jazz studies should see *Jazz Studies*.



# PHILOSOPHY

**Departmental Office:** 708 Philosophy; 212-854-3196  
www.philosophy.columbia.edu

**Director of Undergraduate Studies:** Michele Moody-Adams,  
702 Philosophy; 212-851-9522; moody-adams@columbia.edu

**Economics-Philosophy Adviser:** John Collins, 714  
Philosophy; 212-854-3970; jdc9@columbia.edu

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 in philosophy or economics-philosophy, and before deciding to combine philosophy with another discipline, students should meet with the director of undergraduate studies to formulate the program 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, philosophy of mind and language, and history of philosophy. The department requires that all majors take at least one seminar (PHIL C3912), 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 offerings (and from related courses in other departments), there are special opportunities for focusing more intensively on one or two subfields of philosophy, e.g., 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 information on the Columbia in Paris Program at Reid Hall, including summer courses, consult the *Columbia University in Paris Bulletin* (available in 606 Kent and on-line at the Office of Global Programs (<http://ogp.columbia.edu>) website), call 212-854-2559, or send an e-mail to reidhall@columbia.edu. For information on 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.

## DEPARTMENTAL HONORS

Departmental honors are highly competitive. Normally no more than 10% of the majors graduating in the department each year receive departmental honors.

In order to qualify for departmental honors in philosophy, a student must have a grade point average of at least 3.6 in the major. For students with a GPA of 3.6 or above, there are two possible routes to consideration:

1. A student may complete a senior thesis; all students who complete senior theses are considered for honors.
2. A student may be nominated by a faculty member early in the spring semester of the senior year; nominated students are invited to submit a writing sample. A nominated student who is also writing a thesis may submit their thesis as the writing sample, or may choose to submit a different work.

Both the senior theses and writing samples are due in early April. The departmental honors committee then reviews the submitted material and the academic records of the students, and reports to the full faculty. The full faculty then decide which students to recommend for departmental honors.

Senior thesis undergraduates majoring in Philosophy or Economics-Philosophy may apply to write a senior thesis. Students who wish to write a thesis should approach a faculty member at the end of their junior or beginning of their senior year, and begin working on the application early in the Fall semester of their senior year. Applications are due in early December, and are reviewed by a committee which includes the director of undergraduate studies; students are notified of the committee's decision within two weeks. Students whose applications are approved should register for their faculty adviser's section of Supervised Senior Research for the Spring term of the senior year. Theses are due in early April. All students who complete theses are considered for Departmental Honors.

## FACULTY PROFESSORS

- David Albert
- Akeel Bilgrami
- Taylor Carman (Barnard)
- Haim Gaifman
- Lydia Goehr
- Robert Gooding-Williams
- Axel Honneth
- Patricia Kitcher

- Philip Kitcher
- Wolfgang Mann
- Christia Mercer
- Michele Moody-Adams
- Fred Neuhouser (Chair, Barnard)
- Christopher Peacocke (Chair)
- Carol Rovane
- David Sidorsky
- Achille Varzi
- Katja Vogt

## ASSOCIATE PROFESSORS

- John Collins

## ASSISTANT PROFESSORS

- Justin Clarke-Doane
- Tamar Lando
- Karen Lewis (Barnard)
- 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)

## REQUIREMENTS

### 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 Methods and Problems of Philosophical Thought. 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.

The major requires a minimum of 30 points in philosophy chosen from courses prefixed with *C*, *G*, *V*, or *W*, including:

- PHIL V2101 The History of Philosophy I: Presocratics to Augustine (or another course in the history of ancient or medieval philosophy e.g., PHIL V3131)
- PHIL V2201 History of Philosophy II: Aquinas to Kant (or another course in the history of late medieval or early modern philosophy e.g., PHIL V3237 or PHIL W3264)
- PHIL V3411 Symbolic Logic (or, in exceptional cases, a more advanced course in logic)

At least one course in either metaphysics or epistemology e.g., PHIL W3960, or a related course to be chosen in consultation with the director of undergraduate studies

Select at least one course in either ethics or social and political philosophy from the following:

PHIL V2702 Contemporary Moral Problems

PHIL V3701 Ethics

PHIL V3751 Political Philosophy

A related course to be chosen in consultation with the director of undergraduate studies

PHIL C3912

## 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.

PHIL C3912 is open to junior and senior concentrators who have taken at least four courses in philosophy.

## MAJOR IN ECONOMICS- PHILOSOPHY

Please read *Guidelines for all 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:

### Economics Core Courses

ECON W1105 Principles of Economics

ECON W3211 Intermediate Microeconomics

ECON W3213 Intermediate Macroeconomics

### Mathematics Sequence

Select a mathematics sequence

### Statistics

Select a statistics course

### Economics Electives

Select 6 points of economics electives; refer to the Economics section of this bulletin.

### Philosophy Courses

PHIL C1010 Methods and Problems of Philosophical Thought

PHIL V3411 Symbolic Logic

PHIL V3701 Ethics (or another adviser-approved course in moral or political philosophy)

PHIL V3551 Philosophy of Science  
or PHIL W3960 Epistemology

PHIL G4561 Probability and Decision Theory  
or PHIL G4565 Rational Choice

### Seminar

ECPH W4950 Economics and Philosophy Seminar  
(or another seminar in philosophy or economics approved by advisers in both department)

## Students who declare in Spring 2014 and beyond:

In addition to the above requirements, students are required to take:

1. ECON W3412 Introduction To Econometrics
2. A third economics elective; two of the three electives must be from the prescribed list found in the *Economics* section of the Bulletin, and the remaining economics elective may be *any* elective at the 3000-level or above.

# PHYSICAL EDUCATION AND INTERCOLLEGIATE ATHLETICS

**Departmental Office:** 336 Dodge Physical Fitness Center;  
212-854-3439  
<http://www.dodgefitnesscenter.com>

**Director of Undergraduate Studies:** Prof. Kenneth  
Torrey, 332 Dodge Physical Fitness Center; 212-854-3439;  
[kwt1@columbia.edu](mailto:kwt1@columbia.edu)

The Physical Education Department 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 emphasized. A major goal is to provide a positive, enjoyable experience for students. It is our hope that 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 Athletics Complex, and special courses that utilize off-campus facilities during weekends. A description of the scheduled activities for each time preference is included in the Department of Physical Education and Intercollegiate Athletics’ website (<http://www.dodgefitnesscenter.com>).

A list of the activities for the term is included in the *Directory of Classes* and on the website. Students may 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.

## PHYSICAL EDUCATION REQUIREMENT

Successful completion of two Physical Education Activities is a Columbia 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 Physical Education Activities for credit. Students receive 1 point of academic credit for each completed term of physical education for a possible total of 4 points.

For more information on this requirement, please visit the *Core Curriculum—Physical Education Requirement* section of the bulletin.

## MEDICAL CONDITIONS

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 Columbia Health Programs, who facilitates these evaluations.

## GRADING

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 a W (Withdrawal). Those who anticipate attendance problems should contact their instructors or the director of undergraduate studies.

## SWIM TEST

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 8:30pm-9:30pm, Fridays from 12-2pm and Sundays from 3pm-4pm throughout the semester. The test consists of swimming three laps of the pool (75 yards) without resting, using any stroke or combination of strokes. Those who do not pass are encouraged to take a beginner swimming course at the first opportunity.

## LOCKER AND TOWEL SERVICE

Students have access to a lock/towel service (\$18 fee) and, with the exception of tennis, equipment for the activities is supplied by the Physical Education Department.

## THE COLUMBIA AND BARNARD PHYSICAL EDUCATION EXCHANGE PROGRAM

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, 200 Barnard Annex.

For Columbia College students, one point of the Physical Education requirement can be fulfilled with a Barnard

Physical Education course or a Barnard Dance technique course.

## INTERCOLLEGIATE ATHLETICS

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 to receive 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 receive a mark of W (Withdrawal).

## FACULTY

### ASSOCIATE PROFESSOR

- Kenneth Torrey

### ASSOCIATES

- Scott Alwin
- Kevin Anderson
- Nicole Aquila
- Michael Aufrichtig
- Laura Baden
- Tracey Bartholomew
- Nicole Blood
- Elliot Blount
- James Bolster
- Brett Boretti
- Will Boyland-Pett
- Scott Butch
- Diana Caskey
- Pete Cruz
- Emerson Curry
- Derek Davis
- Patrick Desir
- Adriano Di Peco
- Howard Endelman
- Steven Figueroa
- Roman Fleszar
- Jesse Foglia
- Marybeth Freeman
- Carl Fronhofer
- Stephanie Glance
- Bid Goswami
- Elizabeth Grubb

- Adam Hall
- Jumpie Harada
- Matt Herhal
- Brian Jines
- Maggie Johnson
- Ruben Jones
- Tara Kalivas
- Brie Katz
- Luke Kelly
- Amphone Keovongmanysar
- Liz Kittleman
- Gustavo Leal
- SeoungWoo Lee
- Peter Maki
- Gaurav Misra
- Richard Mueller
- Caroline Nichols
- Nich Lee Parker
- Libby Peters
- Ken Pollard
- David Poolman
- Scott Ramsey
- Sheila Roux
- Michael Sabala
- Joanne Schickerling
- Anne Marie Skylis
- Allison Slater
- Kyle Smith
- Gordon Spencer
- Jacques Swanepoel
- Christie Switek
- Sara Van Saanen
- Benjamin Waruch
- Ilene Weintraub
- Ajaya William
- Kari Williams
- Riza Zalameda



# PHYSICS

**Departmental Office:** 704 Pupin; 212-854-3348  
<http://www.columbia.edu/cu/physics>

**Director of Undergraduate Studies:** Dr. Jeremy Dodd, 924 Pupin; 212-854-3969; [dodd@phys.columbia.edu](mailto:dodd@phys.columbia.edu)

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 prepare 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 helps 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 Introduction To Mechanics and Thermodynamics - PHYS C1402 Introduction To Electricity, Magnetism, and Optics should take PHYS C2601 Physics, III: Classical and Quantum Waves as the third-semester course.

## Introductory Sequences

The sequences are intended primarily for:

### Nonscience Majors:

PHYS C1001 Physics for Poets  
 - PHYS and Physics for Poets  
 C1002

### Preprofessional Students:

Select one of the following sequences:

PHYS V1201 - PHYS V1202	General Physics and General Physics
PHYS F1201 - PHYS F1202	General Physics and General Physics

Accompanying laboratory course:

PHYS W1291 General Physics Laboratory  
 - PHYS and General Physics Laboratory  
 W1292

### Engineering and Physical Science Majors:

Select one of the following sequences with accompanying laboratory course:

Sequence A:

PHYS C1401 - PHYS C1402 - PHYS C1403	Introduction To Mechanics and Thermodynamics and Introduction To Electricity, Magnetism, and Optics and Introduction to Classical and Quantum Waves
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Sequence B:

PHYS C1601 - PHYS C1602 - PHYS C2601	Physics, I: Mechanics and Relativity and Physics, II: Thermodynamics, Electricity, and Magnetism and Physics, III: Classical and Quantum Waves
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Sequence C:

PHYS C2801 - PHYS C2802	Accelerated Physics, I and II and Accelerated Physics, I and II
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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*, *PHYS 1002*, *PHYS 1202*, *PHYS 1402* or *PHYS 1602*.

## FACULTY PROFESSORS

- Igor Aleiner
- Boris Altshuler
- Elena Aprile
- Allan Blaer (*emeritus*)
- Andrei Beloborodov
- Norman Christ
- Brian Cole
- Frederik Denef
- Brian Greene (Mathematics)
- Miklos Gyulassy
- Charles J. Hailey
- Timothy Halpin-Healy (Barnard)
- Tony Heinz (Electrical Engineering)
- Emlyn Hughes
- Lam Hui
- Tsung Dao Lee (*emeritus*)
- Robert Mawhinney
- Amber Miller
- Andrew Millis
- Alfred H. Mueller
- Reshmi Mukherjee (Barnard)
- John Parsons
- Aron Pinczuk (Applied Physics)
- Malvin Ruderman
- Michael Shaevitz
- Michael Tuts (Chair)

- Yasutomo Uemura
- Erick Weinberg
- William Zajc

## ASSOCIATE PROFESSORS

- Gustaaf Brooijmans
- Janna Levin (Barnard)
- Szabolcs Marka
- Reshmi Mukherjee (Barnard)
- Alberto Nicolis
- Abhay Pasupathy
- Ozgur Sahin (Biology)

## ASSISTANT PROFESSORS

- Cory Dean
- Brian Humensky
- Bradley Johnson
- Brian Metzger
- Rachel Rosen
- Tanya Zelevinsky

## SENIOR LECTURER IN DISCIPLINE

- Jeremy Dodd

## ADJUNCT PROFESSOR

- Morgan May

## LECTURER

- Burton Budick
- Joel Gersten

## REQUIREMENTS

### GUIDELINES 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.

## MAJOR IN PHYSICS

### Physics Courses

The major in physics requires a minimum of 41 points in physics courses, including:

#### Introductory Sequences

Select one of the following sequences:

Sequence A: Students with a limited background in high school physics may elect to take:

PHYS C1401	Introduction To Mechanics and Thermodynamics
- PHYS C1402	and Introduction To Electricity, Magnetism, and Optics
- PHYS C2601	and Physics, III: Classical and Quantum Waves

Sequence B:

PHYS C1601	Physics, I: Mechanics and Relativity and Physics, II: Thermodynamics, Electricity, and Magnetism
- PHYS C1602	and Physics, III: Classical and Quantum Waves
- PHYS C2601	

Sequence C: Students with advanced preparation in both physics and mathematics may be eligible to take:

PHYS C2801	Accelerated Physics, I and II and Accelerated Physics, I and II
- PHYS C2802	

#### Core Physics Courses

PHYS W3003	Mechanics
- PHYS W3007	and Electricity and Magnetism and Electromagnetic Waves and Optics
- PHYS W3008	and Quantum Mechanics, I and II and Quantum Mechanics, I and II
- PHYS G4021	and Thermal and Statistical Physics
- PHYS G4022	
- PHYS G4023	

#### Elective Courses

Select at least six points of the following:

PHYS W3002	From Quarks To the Cosmos: Applications of Modern Physics
PHYS G4003	Advanced Mechanics
PHYS G4011	Particle Astrophysics and Cosmology

PHYS G4018	Solid-State Physics
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PHYS G4019	Mathematical Methods of Physics
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PHYS G4040	Introduction to General Relativity
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PHYS G4050	Introduction to Particle Physics
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With the permission of the Director of Undergraduate Studies, 4000- or 6000-level courses offered in this or other science departments

#### Laboratory Work at the Intermediate Level

Select one of the following:

PHYS W3081	Intermediate Laboratory Work and Intermediate Laboratory Work
- PHYS W3081	and Electronics Laboratory
- PHYS W3083	

PHYS W3081	Intermediate Laboratory Work (three semesters)
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Approved experimental work with a faculty research group may satisfy one semester of the laboratory requirement.

#### Senior Seminar

PHYS W3072 Seminar in Current Research Problems

### Mathematics Courses

Calculus through MATH V1202 Calculus IV or MATH V1208 Honors Mathematics B; and MATH V3027 Ordinary Differential Equations or the equivalent.

Recommended cognate courses: MATH V2010 Linear Algebra, MATH V3007 Complex Variables and MATH V3028 Partial Differential Equations.

## CONCENTRATION IN PHYSICS

The concentration in physics requires a minimum of 24 points in physics, including one of the introductory sequences.

## INTERDISCIPLINARY MAJOR

It is also possible to major in Astrophysics, Biophysics, and Chemical Physics. Students interested in these areas should consult with the director of undergraduate studies and with cognate departments (Astronomy, Biological Sciences, Chemistry).

# POLITICAL SCIENCE

**Departmental Office:** 710 International Affairs Building;  
212-854-3707  
<http://polisci.columbia.edu>

**Director of Undergraduate Studies:**

Prof. David Johnston, 705 International Affairs Building;  
212-854-3955; [dcj1@columbia.edu](mailto:dcj1@columbia.edu)

**Economics-Political Science Advisers:**

*Economics:* Dr. Susan Elmes, Director of Undergraduate Studies, 1006 International Affairs Building;  
[se5@columbia.edu](mailto:se5@columbia.edu)

*Political Science:* Prof. John Huber, 813 International Affairs Building; 212-854-7208; [jdh39@columbia.edu](mailto:jdh39@columbia.edu)

**Political Science-Statistics Advisers:**

*Political Science:* Prof. Robert Shapiro, 730 International Affairs Building; 212-854-3944; [rys3@polisci.columbia.edu](mailto:rys3@polisci.columbia.edu)

*Statistics:* Prof. Daniel Rabinowitz, 1255 Amsterdam Avenue, Room 1014; 212-851-2141; [dan@stat.columbia.edu](mailto:dan@stat.columbia.edu)

The discipline of political science focuses 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 being American politics, 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; and the fourth, 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

The department grants credit toward the major for work completed under the College Entrance Examination Board (CEEB) Advanced Placement Program. Students receive 3 academic credits and exemption from POLS W1201 Introduction To American Government and Politics or POLS

V1501 Comparative Politics for scores of 5 in the United States and Comparative Government and Politics AP Exams.

## 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 then 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 once per week (the schedule can be found on-line at <http://polisci.columbia.edu/academic-programs/undergraduate-programs/advising>). Students should stop by during these hours with 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://polisci.columbia.edu/academic-programs/undergraduate-programs/planning-forms>). 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 each semester they may 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, because 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 for 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 visit walk-in advising hours 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 oversees the undergraduate program and is available during 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 cases, the undergraduate coordinator and advisers refer students to the director of undergraduate studies.

## Economics–Political Science Adviser

Economics–political science majors may consult Professor Massimo Morelli 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 are referred to Professor Morelli.

## 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 discuss interests in political science, course selection, and other academic or post-college issues. The faculty 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., are addressed 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 at least 75 pages in length and of exceptional quality.

Honors students perform research as part of a full-year honors seminar (POLS C3998 Senior Honors Seminar- POLS C3999 Senior Honors Seminar, 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 for the 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 and covers 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 thesis presentations. Students are also expected to meet periodically with the supervising professor and preceptor.

Students who wish to apply to the honors program must notify the department in writing by the end of the spring semester of the junior year. Please check the department website for the official deadline. Normally no more than 10% of the graduating majors in the department each year may receive departmental honors. Applicants are required to have already completed the methods requirement for the major.

## Application Materials

Applications to the Honors Program must include the following:

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 (<http://registrar.columbia.edu>) in Kent Hall, or from Student Services On-Line (<https://ssol.columbia.edu>) (SSOL)
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 review the *Guidelines for Honors Seminar Proposals* (<http://polisci.columbia.edu/files/polisci/content/pdf/students/Honors%20SeminarApplication%20guidelines.pdf>) .

Complete applications 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 (<http://www.columbia.edu/cu/polisci>). 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.

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 *Independent Study* in order to write a thesis to submit for honors consideration.

For registration information and more details about this process, 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 at least 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. Unless otherwise noted, 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.

### The Arthur Ross Foundation Award 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 should apply during the fall semester of their senior year for admission to the M.A. program in the following fall semester, after completion of the B.A. degree. The department

and the Graduate School of Arts and Sciences may award up to one-half Residence Unit of advanced standing and/or up to three courses (nine to twelve credits) of transfer credit for graduate courses (4000 level and above) taken at Columbia in excess of the requirements for the Columbia bachelor's degree, as certified by the dean of the undergraduate school awarding the bachelor's degree.

For further information about the application process and minimum qualifications for early admission, please contact the director of undergraduate studies.

For further information about requirements for the M.A. degree, see <http://gsas.columbia.edu/content/academic-programs/political-science>.

## FACULTY PROFESSORS

- Richard K. Betts
- Jagdish Bhagwati (also Economics)
- Partha Chatterjee (also Anthropology)
- 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
- Robert Erikson
- Virginia Page Fortna (Chair)
- Timothy Frye
- Ester Fuchs (also School of International and Public Affairs)
- Andrew Gelman (also Statistics)
- Donald P. Green
- Fredrick Harris
- Jeffrey Henig (also Teachers College)
- John Huber
- Macartan Humphreys
- Robert Jervis
- David C. Johnston
- Ira Katznelson (also History)
- Sudipta Kaviraj (also Middle Eastern, South Asian, and African Studies)
- Mahmood Mamdani (also Anthropology)
- Isabela Mares
- Massimo Morelli (also Economics)
- M. Victoria Murillo (also School of International and Public Affairs)
- Andrew J. Nathan
- Sharyn O'Halloran (also School of International and Public Affairs)

- Kenneth Prewitt (also School of International and Public Affairs)
- Robert Y. Shapiro
- Jack Snyder
- Alfred Stepan (also School of International and Public Affairs)
- Michael Ting (also School of International and Public Affairs)
- Nadia Urbinati
- Gregory Wawro

## ASSOCIATE PROFESSORS

- Christopher Blattman (also School of International and Public Affairs)
- Shigeo Hirano
- Jeffrey Lax
- Justin Phillips
- Johannes Urpelainen

## ASSISTANT PROFESSORS

- Allison Carnegie
- Daniel Corstange (also School of International and Public Affairs)
- Turkuler Isiksel
- Kimuli Kasara
- Yotam Margalit
- Salvatore Nunnari
- Tonya Putnam
- Kay Shimizu

## ON LEAVE

- Profs. Blattman, Curtis, Green, Isiksel, Morelli, Shimizu (2014-2015)
- Profs. Elster, Hirano, Urbinati, Wawro (Fall 2014)
- Profs. Mares, Margalit, Murillo (Spring 2015)

## REQUIREMENTS

### GUIDELINES FOR ALL POLITICAL SCIENCE MAJORS, CONCENTRATORS, AND INTERDEPARTMENTAL MAJORS

#### Planning Forms

Major Planning forms are available on the departmental website: <http://polisci.columbia.edu/academic-programs/undergraduate-programs/planning-forms>

#### Courses

Courses in Barnard College or other divisions of the university not listed on the department website course listing cannot be used to meet the requirement of a major or concentration in

political science without the approval of an undergraduate adviser, which should be secured in advance of registration.

## Transfer Credits

Political science courses 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. No more than 15 transfer credits may normally be counted toward the major.

## AP Credits

AP Credits will be granted, based on successful completion of an AP exam with a score of 4 or higher, only after the completion of an upper-level (3000 or higher) course in the subfield in which the AP exam was taken with a grade of C or higher. Students may be given an exemption, based on AP scores, from only one undergraduate course. Students may not be exempted from more than one introductory course on the basis of AP scores.

## 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.

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## MAJOR IN POLITICAL SCIENCE

Please read *Guidelines for all Political Science Majors, Concentrators, and Interdepartmental Majors* above.

The major in political science requires a total of 29 points, distributed as follows:

### Introductory Courses

Select two of the following four introductory courses:

POLS      Political Theory  
V1013

POLS      Introduction To American Government  
W1201      and Politics

POLS      Comparative Politics  
V1501

POLS      International Politics  
V1601

### Major Subfield

Six points in one of the subfields in which an introductory course was taken:

American politics

Comparative politics

Political theory

International relations

### Minor Subfield

Three points in a second subfield in which an introductory course was taken

### Additional Courses

Six additional points in political science, including three points in research methods. Courses that satisfy the research methods requirement include: \*

POLS      Logic of Collective Choice  
W3220

POLS      Data Analysis Statistics for Political Science  
W3704      Research

POLS      Empirical Research Methods  
W3708

POLS      Scope Methods  
W3720

POLS      Game Theory and Political Theory  
W4209

POLS      Research Topics in Game Theory  
W4210

POLS      Advanced Topics in Quantitative Research  
W4291

POLS      Advanced Topics in Quantitative Research:  
W4292      Models for Panel Time-Series Cross-  
Section Data

POLS      Design Analysis of Sample Surveys  
W4365

POLS      Experimental Research: Design, Analysis  
W4368      Interpretation

POLS      Principles of Quantitative Political  
W4910      Research

POLS      Analysis of Political Data  
W4911

POLS      Multivariate Political Analysis  
W4912

### Seminars

Eight points of seminars (one four-point seminar in major subfield; one four-point seminar in any subfield) \*\*

- \* The research methods requirement applies only to students who declared their major in or after February 2012. Students who declared their major prior to February 2012 are not required to take a course in research methods. If a student takes another course inside or outside the department that provides relevant training in research methods, the student can petition the director of undergraduate studies to have this course satisfy the research methods requirement. If a course outside the political science department is used to satisfy the research methods requirement, this same course cannot be used toward other majors/concentrations or programs.

\*\* See seminar section below.

## 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 nine other points have been completed). Entry into seminars requires instructor permission.

For detailed seminar registration guidelines, see <http://polisci.columbia.edu/undergraduate-programs/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 political science courses, students are strongly advised, but not required, to take six points in a related social science field.

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## MAJOR IN ECONOMICS– POLITICAL SCIENCE

Please read *Guidelines for all Economics Majors, Concentrators, and Interdepartmental Majors* in the *Economics* section of this Bulletin.

Please read *Guidelines 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 economics requirements and the political science adviser can only advise on political science requirements.

## Students who declared prior to Spring 2014:

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, i.e. subfields: (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 subfield and one as a minor subfield. The corresponding introductory courses in both subfields must be taken, plus two electives in the major subfield, and one in the minor subfield.

### Economics Core Courses

ECON W1105	Principles of Economics
ECON W3211	Intermediate Microeconomics
ECON W3213	Intermediate Macroeconomics
ECON W4370	Political Economy

### Mathematics Sequence

Select a mathematics sequence

### Statistical Methods

Select one of the following:

ECON W3412	Introduction To Econometrics (and one of the statistics courses listed under Guidelines for all Economics Majors, Concentrators, and Interdepartmental Major)
POLS W4911	Analysis of Political Data (and one of the statistics course listed under Guidelines for all Economics Majors, Concentrators, and Interdepartmental Majors)
POLS W4911 - POLS W4910	Analysis of Political Data and Principles of Quantitative Political Research

### Economics Electives

Select two electives (6 points) at the 3000-level or above

### Political Science Courses

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) - including the introductory course in another subfield, coordinated with the economics electives and approved by the adviser

### Seminars

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 Principles of Quantitative Political Research cannot take ECON W3412 Introduction To Econometrics.

### Students who declare in Spring 2014 and beyond:

In addition to the above requirements, students are required to take STAT W1211 Introduction to Statistics (with calculus) to satisfy the statistics requirement. POLS W4910 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=POLS%20W4910>) Principles of Quantitative Political Research will no longer be an accepted alternative course for the statistics requirement. Students will still have the option to take ECON W3412 Introduction To Econometrics or POLS W4911 Analysis of Political Data to complete the statistical methods requirement.

## MAJOR IN POLITICAL SCIENCE–STATISTICS

Please read *Guidelines for all Political Science Majors, Concentrators, and Interdepartmental Majors* above.

The interdepartmental 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.

Students take courses in mathematics and 31 or 34 points in political science, statistics and computer science, distributed as follows:

### Political Science

Select one of the following introductory courses in one of the major subfields:

American Politics:

POLS W1201 Introduction To American Government and Politics

Comparative Politics:

POLS V1501 Comparative Politics

International Relations:

POLS V1601 International Politics

Political Theory:

POLS V1013 Political Theory

POLS W4133 Political Thought - Classical and Medieval

POLS W4134 Modern Political Thought

Six points in the same subfield as the introductory course

A four point seminar in the same subfield

POLS W4910 Principles of Quantitative Political Research and Analysis of Political Data  
- POLS W4911

### Statistics

Select one of the following introductory courses:

STAT W1001 Introduction to Statistical Reasoning

STAT W1111 Introduction to Statistics (without calculus)

STAT W1211 Introduction to Statistics (with calculus)

Select one of the following sequences:

STAT W3103 Mathematical Methods for Statistics and Introduction to Probability and Introduction to Statistical Inference and Linear Regression Models  
- STAT W3105  
- STAT W3107  
- STAT W3315



STAT W2024	Applied Linear
- STAT W2025	Regression Analysis
- STAT W2026	and Applied
- STAT W3026	Statistical Methods
	and Statistical
	Applications and
	Case Studies
	and Applied Data
	Mining

An approved elective in a statistics or a quantitatively oriented course in a social science.

### Computer Science

Select one of the following:

COMS W1004	Introduction to Computer Science and Programming in Java
COMS W1005	Introduction to Computer Science and Programming in MATLAB
COMS W1007	Honors Introduction to Computer Science

Students may substitute *STAT W4105 Introduction to Probability* for *STAT W3105 Introduction to Probability*, *STAT W4107 Introduction to Statistical Inference* for *STAT W3107 Introduction to Statistical Inference*, and *STAT W4315 Linear Regression Models* for *STAT W3315 Linear Regression Models*.

Students preparing for advanced study in statistics should take the *STAT W3105 Introduction to Probability*, *STAT W3107 Introduction to Statistical Inference*, *STAT W3315 Linear Regression Models* sequence and should consider substituting *MATH V1101 Calculus I*, *MATH V1102 Calculus II*, and *MATH V2010 Linear Algebra* for *STAT W3103 Mathematical Methods for Statistics*.

Students preparing to apply statistical methods should take the *STAT W2024 Applied Linear Regression Analysis*, *STAT W2025 Applied Statistical Methods*, *STAT W2026 Statistical Applications and Case Studies*, *STAT W3026 Applied Data Mining* sequence.

Students may replace the *POLS V1013 Political Theory*, *POLS W4133 Political Thought - Classical and Medieval*, or *POLS W4134 Modern Political Thought* requirement with *COCI C1101 Introduction To Contemporary Civilization* and *COCI C1102 Introduction To Contemporary Civilization* (CC students) or *COCI F1101 Contemporary Civilization* and *COCI F1102 Contemporary Civilization* (GS students).

## CONCENTRATION IN POLITICAL SCIENCE

Please read *Guidelines for all Political Science Majors, Concentrators, and Interdepartmental Majors* above.

The concentration in political science requires a minimum of 21 points, distributed as follows:

### Introductory Courses

Select two of the following four introductory courses:

POLS V1013	Political Theory
POLS W1201	Introduction To American Government and Politics
POLS V1501	Comparative Politics
POLS V1601	International Politics

### Subfield Courses

Three points in one of the subfields in which an introductory course was taken

Three points in a second subfield in which an introductory course was taken

### Additional Courses

Six additional points in political science in any subfield

Select one of the following research methods courses:

POLS W3220	Logic of Collective Choice
POLS W3704	Data Analysis Statistics for Political Science Research
POLS W3708	Empirical Research Methods
POLS W3720	Scope Methods
POLS W4209	Game Theory and Political Theory
POLS W4210	Research Topics in Game Theory
POLS W4291	Advanced Topics in Quantitative Research
POLS W4292	Advanced Topics in Quantitative Research: Models for Panel Time-Series Cross- Section Data
POLS W4365	Design Analysis of Sample Surveys
POLS W4368	Experimental Research: Design, Analysis Interpretation
POLS W4910	Principles of Quantitative Political Research
POLS W4911	Analysis of Political Data

POLS      Multivariate Political Analysis  
W4912

### **Recommended Courses**

In addition to courses in political science, students are strongly advised, but not required, to take six credits in a related social science field.

# PSYCHOLOGY

**Departmental Office:** 406 Schermerhorn; 212-854-3608  
<http://www.columbia.edu/cu/psychology>

**Director of Undergraduate Studies, Undergraduate Programs, and Laboratories:**

Prof. Lois Putnam, 314 Schermerhorn; 212-854-4550;  
[putnam@psych.columbia.edu](mailto:putnam@psych.columbia.edu)

**Directors of Undergraduate Studies:**

*Psychology Major and Concentration:*

Prof. Patricia Lindemann, 358E Schermerhorn Extension;  
 212-854-8285; [pgl2@columbia.edu](mailto:pgl2@columbia.edu)

Prof. Carl Hart, 401D Schermerhorn; 212-854-7080;  
[clh42@columbia.edu](mailto:clh42@columbia.edu)

Prof. Dean Mobbs, 370 Schermerhorn Extension;  
 212-854-5318; [dm2912@columbia.edu](mailto:dm2912@columbia.edu)

*Neuroscience and Behavior Major:*

*Psychology:* Prof. Frances Champagne, 315 Schermerhorn;  
 212-854-2589; [fhampag@psych.columbia.edu](mailto:fhampag@psych.columbia.edu)

*Psychology:* Prof. James Curley, 317 Schermerhorn;  
 212-854-7033; [jc3181@columbia.edu](mailto:jc3181@columbia.edu)

*Biology:* Prof. Jian Yang, 917A Fairchild; 212-854-6161;  
[jy160@columbia.edu](mailto:jy160@columbia.edu)

*Biology:* Prof. Deborah Mowshowitz, 744 Mudd;  
 212-854-4497; [dbm2@columbia.edu](mailto:dbm2@columbia.edu)

**Directors of Psychology Honors Program:**

Prof. Kevin Ochsner, 369 Schermerhorn Extension;  
 212-851-9348; [ochsner@psych.columbia.edu](mailto:ochsner@psych.columbia.edu)

Prof. Daphna Shohamy, 368 Schermerhorn Extension;  
 212-854-7560; [shohamy@psych.columbia.edu](mailto:shohamy@psych.columbia.edu)

**Preclinical Adviser:** Prof. E'mett McCaskill, 415O Milbank;  
 212-854-8601; [emccaski@barnard.edu](mailto:emccaski@barnard.edu)

**Administrative Coordinator:** Joanna Borchert-Kopczuk, 406  
 Schermerhorn; 212-854-3940; [jb2330@columbia.edu](mailto:jb2330@columbia.edu)

**Undergraduate Curriculum Assistant:** Paulo Ribeiro, 406  
 Schermerhorn; 212-854-8859; [uca@psych.columbia.edu](mailto:uca@psych.columbia.edu)

**Undergraduate InfoPack:** <http://www.columbia.edu/cu/psychology/dept/ugrad/infopack.html>

The mission of the undergraduate programs in the Department of Psychology (<http://www.columbia.edu/cu/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. Psychology course offerings are designed to meet the varying needs and interests 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.

The department's program goals (<http://www.columbia.edu/cu/psychology/dept/ugrad/goals.html>) 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 (<http://www.columbia.edu/cu/psychology/dept/ugrad/goals.html>) are introduced in PSYC W1001 The Science of Psychology, the recommended first psychology course required for all majors, which satisfies the prerequisite for most 2000-level courses. These goals are extended and reinforced in our statistics PSYC W1610 Introductory Statistics for Behavioral Scientists and research methods (1400s) laboratory courses, as well as in the 2000-level lecture courses and 3000- and 4000-level seminars. Each of the 2000-level lecture courses enables students to study systematically, and in greater depth, one of the content areas introduced in PSYC W1001 The Science of Psychology. These lecture courses are the principal means by which psychology majors satisfy the distribution requirements, ensuring 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, students take one or more advanced seminars and are encouraged to participate in supervised research courses, where they have the opportunity to explore research questions in depth and further develop their written and oral communication skills.

All qualified students are welcome to participate in research project opportunities within the Department of Psychology. Students may volunteer to work in a lab, register for supervised individual research (PSYC W3950 Supervised Individual Research), or participate in the department's two-year Honors Program. Information on faculty research (<http://www.columbia.edu/cu/psychology/lists/core.html>) is available on the department's website. Students are advised to read about research laboratories on faculty lab sites (<http://www.columbia.edu/cu/psychology/research/facultyresearch/researchlabs.html>) and visit the professor's office hours (<http://www.columbia.edu/cu/psychology/lists/office-hours.html>) to discuss opportunities. At the beginning of the fall 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 in the Undergraduate InfoPack (<http://www.columbia.edu/cu/psychology/dept/ugrad/infopack.html>). Students wishing to declare a psychology major must first complete a Major Declaration Checklist

(<http://www.columbia.edu/cu/psychology/dept/ugrad/PSYC.html>) and obtain departmental approval. All majors and concentrators in psychology and majors in neuroscience and behavior should complete a Major Requirement Checklist (<http://www.columbia.edu/cu/psychology/dept/ugrad/checklists/checklistsample.html>) before consulting a program adviser to discuss program plans and before beginning their final semester.

## ADVISING

The Department of Psychology offers a variety of advising resources to provide prospective and current undergraduate majors and concentrators with the information and support needed to successfully plan their programs. An overview of these resources is provided on the Psychology Undergraduate Advising Resources (<http://www.columbia.edu/cu/psychology/dept/ugrad/Advising>) website.

Students are encouraged to consult with Peer, Faculty, and Program Advisers as they plan their course of study in psychology or neuroscience and behavior. Faculty and Peer advisers are important contacts for general advice on class choices, research opportunities, and post-graduation plans. For definitive answers to questions regarding major requirements and other aspects of your degree, including transfer credit, current and prospective majors should consult their Program Adviser or the Undergraduate Curriculum Assistant in the department office. Program Adviser assignments and contact information are provided on the Program Adviser page. 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 (<http://www.columbia.edu/cu/psychology/dept/ugrad/Advising>) website.

## E-MAIL COMMUNICATION

The department maintains an e-mail distribution list with the UNIs of all declared majors and concentrators. 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. Prospective majors or concentrators who would like to be added to the e-mail distribution list should contact the Undergraduate Curriculum Assistant ([uca@psych.columbia.edu](mailto:uca@psych.columbia.edu)) in the department office.

## 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 the *2000*-level courses. However, most students find it advantageous to take PSYC W1001 The Science of Psychology first.

- The *2000*-level contains lecture courses that are introductions to areas within psychology; most require PSYC W1001 The Science of Psychology or PSYC W1010 Mind, Brain and Behavior 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*).

Note that Barnard psychology courses do not follow the same numbering scheme.

## HONORS PROGRAM

The department offers a two-year Honors Program (<http://www.columbia.edu/cu/psychology/dept/ugrad/honors.html>), designed for a limited number of juniors and seniors interested in participating in research. Beginning in the first term of junior year and continuing through senior year, students take PSYC W3910 Honors Seminar and simultaneously participate in an honors research course (PSYC W3920 Honors Research) 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 (<http://www.columbia.edu/cu/psychology/dept/ugrad/honors.html>). Normally no more than 10% of the graduating majors each year may receive departmental honors.

## 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 The Science of Psychology

A course in statistics such as one of the following:

PSYC W1610 Introductory Statistics for Behavioral Scientists

STAT W1001 Introduction to Statistical Reasoning

STAT W1111 Introduction to Statistics (without calculus)

STAT W1211 Introduction to Statistics (with calculus)

A laboratory course in experimental psychology such as one of the following:

PSYC W1420 Experimental Psychology: Human Behavior

PSYC W1450 Experimental Psychology: Social Cognition and Emotion

PSYC W1455 Experimental Psychology: Social and Personality

Students should also take a variety of more advanced undergraduate courses and seminars and participate in PSYC W3950 Supervised Individual Research.

Students interested in clinical psychology should obtain experience working in a community service program and supervised individual research experience. Students should consult the department's pre-clinical adviser, Prof. E'mett McCaskill (<http://www.columbia.edu/cu/psychology/fac-bios/McCaskillE/faculty.html>), 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 website (<http://www.columbia.edu/cu/psychology/dept/ugrad/curriculum.html#grad>).

## ON-LINE INFORMATION

The Department of Psychology maintains an active website (<http://www.columbia.edu/cu/psychology>), in which the Undergraduate InfoPack for Current Students (<http://www.columbia.edu/cu/psychology/dept/ugrad/infopack.html>) provides access to a wide variety of information for majors and prospective majors. Among other useful resources, students will find 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, 212-854-8859, [uca@psych.columbia.edu](mailto:uca@psych.columbia.edu).

## 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 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 the *Core Curriculum* section in this bulletin.

For more detailed information regarding psychology courses that may be applied toward the science requirement, see *Core Requirements* (<http://bulletin.columbia.edu/archive/2014-15/general-studies/undergraduates/degree-fulfillment/core>) in the General Studies bulletin.

## EVENING AND COLUMBIA SUMMER COURSES

The department normally offers at least one lab course (currently PSYC W1420 Experimental Psychology: Human Behavior and PSYC W1450 Experimental Psychology: Social Cognition and Emotion) 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 (8:40 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 S1001D The Science of Psychology meets the same major requirements as does PSYC W1001 The Science of Psychology.)

See *Academic Regulations — Study Outside Columbia College* in this Bulletin for additional information.

See *Summer Courses* (<https://gs.columbia.edu/summer-courses>) for policies governing Summer Session courses.

## FACULTY PROFESSORS

- Niall Bolger
- Geraldine Downey
- William Fifer (Psychiatry, Pediatrics)



- David Friedman (Psychiatry)
- Norma Graham
- Tory Higgins
- Donald C. Hood
- Sheena S. Iyengar (Business School)
- David Krantz
- Leonard Matin
- Janet Metcalfe
- Walter Mischel
- Michael Morris (Business School)
- Kevin Ochsner
- Lois Putnam
- Rae Silver (Barnard)
- Ursula M. Staudinger (Mailman School of Public Health)
- Yaakov Stern (Neurology and Psychiatry)
- Herbert Terrace
- Elke Weber

## ASSOCIATE PROFESSORS

- Frances Champagne
- Carl Hart
- Valerie Purdie-Vaughns
- Daphna Shohamy
- Lisa Son (Barnard)
- Nim Tottenham
- Sarah M.N. Woolley (Chair)

## ASSISTANT PROFESSORS

- James Curley
- Christian Habeck (Neurology)
- Dean Mobbs
- Joshua New (Barnard)

## ADJUNCT FACULTY

- Philip Costanzo
- Katherine Thompson Fox-Glassman
- Yunglin Gazes
- Greg Jensen
- Karen Kelly
- E'mett McCaskill
- Michele Miozzo
- Katherine Nautiyal
- Kathleen Taylor

## LECTURER IN DISCIPLINE

- Patricia Lindemann

## ON LEAVE

- Prof. Hood (2014-2015)
- Profs. Graham and Putnam (Spring 2015)

## REQUIREMENTS

### GUIDELINES FOR ALL PSYCHOLOGY MAJORS, CONCENTRATORS, AND INTERDEPARTMENTAL 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. Students should consult with one of the directors of undergraduate studies (<http://www.columbia.edu/cu/psychology/dept/ugrad/curriculum.html#advisors>) or departmental advisers if they have questions. Note that students attempting to complete two majors with a statistics requirement are generally able to use one course—e.g., STAT W1211 Introduction to Statistics (with calculus)—to satisfy the requirement for both majors (i.e., the student does 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 can 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). Please refer to the table of Overlapping Courses ([http://www.columbia.edu/cu/psychology/dept/ugrad/exceptions/bc\\_overlapping.pdf](http://www.columbia.edu/cu/psychology/dept/ugrad/exceptions/bc_overlapping.pdf)) for a partial list of courses known to overlap.

#### 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.

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## MAJOR IN PSYCHOLOGY

Please read *Guidelines for all Psychology Majors, Concentrators, and Interdepartmental Majors* (p. 309) above.

Thirty or more points are needed to complete the major (<http://www.columbia.edu/cu/psychology/dept/ugrad/curriculum.html#psych>) and must include:

## The Introductory Psychology Course

- PSYC W1001 The Science of Psychology

## A Statistics Course

Select one of the following:

- PSYC W1610 Introductory Statistics for Behavioral Scientists
- STAT W1001 Introduction to Statistical Reasoning
- STAT W1111 Introduction to Statistics (without calculus)
- STAT W1211 Introduction to Statistics (with calculus)

## A Laboratory Course

Select one of the following:

- PSYC W1420 Experimental Psychology: Human Behavior
- PSYC W1450 Experimental Psychology: Social Cognition and Emotion
- PSYC W1455 Experimental Psychology: Social and Personality

Majors are strongly advised to complete the statistics and laboratory requirements, in that order, by the fall term of their junior year. Students are advised to verify the specific prerequisites for laboratory courses, most of which require prior completion of a statistics course.

## Distribution Requirement

One course (3 points or more) must be taken from each of the following three groups (in addition to the introductory, statistics, and laboratory courses described above):

- Group I—Perception and cognition: courses numbered in the *2200s*, *3200s*, or *4200s*. Also PSYC W1420 Experimental Psychology: Human Behavior.
- Group II—Psychobiology and neuroscience: courses numbered in the *2400s*, *3400s*, or *4400s*. Also PSYC W1010 Mind, Brain and Behavior
- Group III—Social, personality, and abnormal: courses numbered in the *2600s*, *3600s*, or *4600s*. Also PSYC W1450 Experimental Psychology: Social Cognition and Emotion and PSYC W1455 Experimental Psychology: Social and Personality

No course may be counted twice in fulfillment of the above requirements.

## Seminar Requirement

For students entering Columbia in Fall 2013, or later, one seminar course numbered in the *3000s* or *4000s* must be taken for 3 or more points. Seminars are usually taken in the

senior year as a culmination of the major program. Seminar courses require permission of the instructor; students are advised to contact instructors one month prior to registration to obtain permission to register. Note that Honors and Supervised individual research courses (PSYC W3920 Honors Research and PSYC W3950 Supervised Individual Research) are not seminar courses and will not meet the seminar requirement.

No course may be counted twice in fulfillment of the above major requirements, with the following exception: a seminar course may fulfill both the seminar requirement and a group requirement if it meets the criteria for both.

## Additional Courses

Additional Courses ("electives") must be taken for a total of 30 points. As described below, these may include research courses, transfer courses, and Barnard psychology courses not approved for specific requirements.

## Research Credits

No more than 4 points of PSYC W3950 Supervised Individual Research may be taken in any one term, and no more than 8 points total of research and field work courses (PSYC W3950 Supervised Individual Research, PSYC BC3466 Field Work and Research Seminar: The Barnard Toddler Center, PSYC BC3473 Field Work Seminar in Psychological Services and Counseling, PSYC BC3592 Senior Research Seminar and PSYC BC3599 Individual Projects) may be applied toward the major (see below for further restrictions on applying Barnard courses toward the psychology major).

## Barnard Courses

No more than 9 points from Barnard psychology courses may be applied as credit toward the major. The table of approved Barnard psychology courses ([http://www.columbia.edu/cu/psychology/dept/ugrad/exceptions/bc\\_approved.pdf](http://www.columbia.edu/cu/psychology/dept/ugrad/exceptions/bc_approved.pdf)) indicates which courses have been approved for specific requirements of the psychology major. Courses not on the approved list may only be applied toward a specific requirement with prior written approval from a program adviser. Courses not on the approved list for a specific requirement may be applied as elective credit toward the 30 points for the major.

## Transfer Credits

No more than 9 transfer credits (including Barnard credits) are accepted toward the psychology major. Approval of transfer credits on a student's Entrance Credit Report toward general requirements for the B.A. 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 on the Major Requirement Substitution Form (<http://www.columbia.edu/cu/psychology/dept/ugrad/exceptions/exceptionsNB.html>). To be approved for the major, a course

taken at another institution should be substantially similar to one offered by the department, the grade received must be a B- or better, and the course must have been taken within the past 8 years. With the exception of approved Barnard courses, students should consult one of the directors of undergraduate studies (<http://www.columbia.edu/cu/psychology/dept/ugrad/curriculum.html#advisors>) before registering for psychology courses 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 (<http://www.columbia.edu/cu/psychology/dept/ugrad/curriculum.html#advisors>) 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 The Science of Psychology or PSYC BC1001 Introduction to Psychology to complete this major requirement. Note that College Board Advanced Placement (AP) psychology scores do **not** satisfy the PSYC W1001 The Science of Psychology requirement, nor do they confer elective credit toward the major.

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## MAJOR IN NEUROSCIENCE AND BEHAVIOR

Please read *Guidelines for all Psychology Majors, Concentrators, and Interdepartmental Majors* (p. 309) above.

The department cosponsors an interdepartmental major in neuroscience and behavior with the Department of Biological Sciences. For assistance in planning the psychology portion of the neuroscience and behavior major, refer to the Program Planning Tips (<http://www.columbia.edu/cu/psychology/dept/ugrad/planning.html>) website and use the appropriate Major Requirement Checklist (<http://www.columbia.edu/cu/psychology/dept/ugrad/checklists/checklistsample.html>).

No course may be counted twice in fulfillment of the biology or psychology requirements described below. Most graduate programs in neuroscience also 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 (<http://www.columbia.edu/cu/biology/pages/undergrad/cur/majors/neuro.html>).

### Required Biology Courses

1. BIOL C2005 Introductory Biology I: Biochemistry, Genetics & Molecular Biology

2. BIOL C2006 Introductory Biology II: Cell Biology, Development & Physiology
3. BIOL W3004 Neurobiology I: Cellular and Molecular Neurobiology
4. BIOL W3005 Neurobiology II: Development & Systems
5. One additional 3000- or 4000-level biology course from a list approved by the biology adviser (<http://www.columbia.edu/cu/biology/pages/undergrad/cur/majors/neuro.html>) 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. Select a statistics or lab course from the following:
  - PSYC W1420 Experimental Psychology: Human Behavior
  - PSYC W1450 Experimental Psychology: Social Cognition and Emotion
  - 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 lecture course from a list approved by the psychology adviser (<http://www.columbia.edu/cu/psychology/dept/ugrad/curriculum.html#p4>) to the program.
5. One advanced psychology seminar from a list approved by the psychology adviser (<http://www.columbia.edu/cu/psychology/dept/ugrad/curriculum.html#p5>) to the program.

### 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 (<http://www.columbia.edu/cu/psychology/dept/ugrad/exceptions/exceptionsNB.html>). **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 The Science of Psychology requirement.

## Exceptions to Biology Requirements

Any exceptions must be approved in advance by a biology adviser and students must receive an email notification of that approval. Students may substitute Barnard College courses only with prior permission from an adviser.

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## CONCENTRATION IN PSYCHOLOGY

Please read *Guidelines for all Psychology Majors, Concentrators, and Interdepartmental Majors* (p. 309) above.

A concentration in psychology (<http://www.columbia.edu/cu/psychology/dept/ugrad/curriculum.html#conc>) requires a minimum of 18 points, including PSYC W1001 The Science of Psychology and courses in at least two of the three groups listed under “Distribution Requirement” for the psychology major. Restrictions on research credits, Barnard credits, and transfer credits are modified from those of the psychology major as follows:

1. Only 4 points total from PSYC W3950 Supervised Individual Research, PSYC BC3466 Field Work and Research Seminar: The Barnard Toddler Center, PSYC BC3473 Field Work Seminar in Psychological Services and Counseling, PSYC BC3592 Senior Research Seminar and PSYC BC3599 Individual Projects,
2. Only 5 points from Barnard (including PSYC BC1001 Introduction to Psychology), 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

## EAST CENTRAL EUROPEAN CENTER

<http://ece.columbia.edu/>

**Director:** Prof. Alan Timberlake, 1228 International Affairs Building; 212-854-8488; at2205@columbia.edu

**Related Departments:** Anthropology, Economics, History, Political Science, Slavic Languages and Literatures, and Sociology.

**Language Requirement:** Two years or demonstrated reading knowledge of one of the following languages: Czech, Hungarian, Polish, Romanian, Russian, Bosnian/Croatian/Serbian, or Ukrainian.

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 academic department. Students plan their programs with the consultant of the associated institute they have selected.

## REQUIREMENTS

### MAJOR IN REGIONAL STUDIES

The major in regional studies requires a minimum of 36 points, of which 18 must be credited by the associated institute, i.e. East Central European Center, 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

Courses taken to satisfy the institute's language requirement are not counted toward the 18 institute points.



# RELIGION

**Departmental Office:** Room 103, 80 Claremont;  
212-851-4122  
<http://www.columbia.edu/cu/religion>

## Director of Undergraduate Studies:

- Spring 2015: Prof. Gil Anidjar, Room 207, 80 Claremont; 212-851-4130; [ga152@columbia.edu](mailto:ga152@columbia.edu)
- Fall 2014: Prof. Wayne Proudfoot, Room 301, 80 Claremont; 212-851-4142; [wlp2@columbia.edu](mailto:wlp2@columbia.edu)

**Academic Department Administrator:** Meryl Marcus, Room 103B, 80 Claremont; 212-851-4124; [mm3039@columbia.edu](mailto:mm3039@columbia.edu)

The Religion Department's curriculum is designed to engage students in critical, comparative and interdisciplinary exploration of religious life. The faculty's research and teaching build upon the shared understandings that religion continues to be a central and influential component of human life, society and politics—and that, furthermore, religious transmission and authority are constantly being shaped in dynamic interactions with other religious traditions, societies, and cultures. Courses and seminars in religion teach students how to analyze and investigate religious texts, histories, beliefs, bodies, and communities, using a variety of disciplinary and methodological approaches.

Majors and concentrators in religion gain both a foundation in the study of religious traditions in historical contexts and also grounding in theoretical and methodological debates that shape academic and public discussions about religion. Lecture courses, seminars and colloquia are designed to balance students' growing understanding of particular religious topics, dynamics, and traditions with intensive engagement with critical theoretical, political, and philosophical debates. Students are encouraged to pursue a course of study in which they develop both breadth and depth, as well as the tools and expertise to pose (and even answer) necessary questions about religious phenomena of the past or present.

As the study of religion is truly interdisciplinary, students find their work in the department enhanced by their coursework in the College's Core curriculum and in related departments. Many religion courses are listed in the College's Global Core requirement, and numerous religious works are central texts in Literature Humanities and Contemporary Civilization. Majors and concentrators are required to take courses outside of religion in related fields to expand their vision of approaches to religion.

In addition, the University's wide offerings in the languages of various religious traditions (including Arabic, Chinese, Greek, Hebrew, Japanese, Persian, Latin, Sanskrit, and Tibetan) augment many students' abilities to conduct research in religion. Students likewise are actively encouraged to explore the world-renowned archival resources within Columbia's

libraries (including the Rare Book and Manuscript Room, the Burke Library at Union Theological Seminary, the C.V. Starr East Asian Library) and to explore and investigate the equally wide range of living religious communities represented in New York's global neighborhoods.

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. After agreeing upon a plan for the major or concentration, students must obtain final approval and confirmation from the director of undergraduate studies.

## DEPARTMENTAL HONORS

Students who write a senior thesis and 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% of graduating majors each year may receive departmental honors.

## GRADUATE COURSES

Graduate courses of interest, open to qualified undergraduates with the instructor's permission, are described in the *Graduate School of Arts and Sciences Bulletin*.

## 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:

1. x000-099: Buddhism
2. x100-199: Christianity
3. x200-299: Hinduism
4. x300-399: Islam
5. x400-499: East Asian religious traditions
6. x500-599: Judaism
7. x600-699: North American religions
8. x700-799: Philosophy of religion
9. x800-899: Comparative
10. x900-999: Methodological, theoretical, research

## FACULTY PROFESSORS

- Gil Anidjar
- Peter Awn
- Courtney Bender (Chair)
- Elizabeth Castelli (Barnard)
- Katherine Pratt Ewing

- Bernard Faure
- John Hawley (Barnard)
- Rachel McDermott (Barnard)
- Wayne Proudfoot
- Robert Somerville
- Mark Taylor
- Robert Thurman

## ASSOCIATE PROFESSORS

- Beth Berkowitz (Barnard)
- Michael Como
- David (Max) Moerman (Barnard)

## ASSISTANT PROFESSORS

- Najam Haider (Barnard)
- Katharina Ivanyi
- Gale Kenny (Barnard)
- Josef Sorett
- Zhaohua Yang

## VISITING SCHOLAR

- Obery Hendricks

## ADJUNCT FACULTY

- Ari Bergmann
- David Kittay
- George Rupp
- Thomas Yarnall

## LECTURER, CLASSICAL TIBETAN

- Paul Hackett

## REQUIREMENTS

### GUIDELINES FOR ALL RELIGION MAJORS AND CONCENTRATORS

#### Senior Thesis

Many students choose to write a senior honors thesis in order to pursue an advanced topic in greater depth, or to work on a particular area of interest with one of their professors. This opportunity is available to all students who major in the department, regardless of GPA, and serves for many as their undergraduate capstone experience.

Students who write a senior thesis may apply for up to 3 points of directed reading with their thesis adviser. The deadline for application for the honors thesis in religion is the last day of exams in the student's junior spring term, and must be submitted for approval to the director of undergraduate studies. 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(s)

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.

Many students find that identifying a thesis project earlier in the junior year, in conjunction with the Juniors colloquium, presents an opportunity to develop a proposal in advance of deadlines for summer research funding from various sources, including the undergraduate schools and the Institute for Religion Culture and Public Life.

## Grading

Courses in which a grade of D has been received do not count toward the major or concentration requirements.

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## 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)
2. Four intermediate religion courses (3000-level)
3. Two seminars (4000-level)
4. Two related courses in other departments (must be approved by the director of undergraduate studies)
5. RELI V3799 Juniors Colloquium (4 points)

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## 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 as follows:

1. Two introductory courses to religious traditions (2000-level; one may be Barnard 2000)
2. Two intermediate religion courses (3000-level)
3. Two advanced seminars (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)

# SLAVIC LANGUAGES

**Departmental Office:** 708 Hamilton; 212-854-3941  
<http://www.columbia.edu/cu/slavic/>

## Directors of Undergraduate Studies:

Prof. Frank Miller, 701 Hamilton; 212-854-8155;  
 fjm6@columbia.edu  
 Prof. Liza Knapp, 714 Hamilton Hall; 212-854-5697;  
 lk2180@columbia.edu

## Language Coordinator:

TBA

The Department of Slavic Languages and Literatures is devoted to the study of the cultures, literatures, and languages of Russia and other Slavic peoples and lands. We approach our study and teaching of these cultures with an eye to their specificity and attention to their interaction with other cultures, in history and in the contemporary global context. We focus not only on the rich literary tradition, but also on the film, theater, politics, art, music, media, religious thought, critical theory, and intellectual history of Russians and other Slavs. Our approach is interdisciplinary.

Students who take our courses have different interests. Many of our courses are taught in English with readings in English and have no prerequisites. As a consequence, our majors and concentrators are joined by students from other literature departments, by students of history and political science who have a particular interest in the Slavic region, and by others who are drawn to the subject matter for a variety of intellectual and practical reasons.

We provide instruction in Russian at all levels (beginning through very advanced), with a special course for heritage speakers. To improve the proficiency of Russian learners and speakers, we offer a number of literature and culture courses in which texts are read in the original and discussion is conducted in Russian. We offer three levels of other Slavic languages: Bosnian-Croatian-Serbian, Czech, Polish, and Ukrainian (with additional courses in culture in English). All language courses in the Slavic Department develop the four basic language skills (speaking, listening, reading, and writing) and cultural understanding.

Our department prides itself on the intellectual vitality of its program and on the sense of community among students and faculty. As they explore Russian and Slavic languages, literatures, and cultures, students develop not only their specific knowledge and cultural understanding, but also the capacity for critical thought, skills in analyzing literary and other texts, and the ability to express their ideas orally and in writing. Our graduates have used their knowledge and skills in different ways: graduate school, Fulbright and other fellowships, journalism, publishing, law school, NGO work,

public health, government work, and politics. Our faculty is proud of its students and graduates.

## MAJORS AND CONCENTRATIONS

Guided by the director of undergraduate studies and other faculty members, students majoring in Slavic create a program that suits their intellectual interests and academic goals. They choose from three tracks: Russian Language and Culture (for those with a strong interest in mastering the language), Russian Literature and Culture (for those who want to focus on literary and cultural studies), and Slavic Studies (a flexible regional studies major for those interested in one or more Slavic cultures). In each major, students may count related courses in other departments among their electives.

In addition to its majors, the department offers five concentrations. Three are analogous to the major tracks (Russian Language and Culture, Russian Literature and Culture, and Slavic Studies). There is also a concentration in Russian Literature that does not require language study and another concentration in Slavic Cultures that allows students to focus on a Slavic language and culture other than Russian.

Motivated seniors are encouraged but not required to write a senior thesis. Those who write a thesis enroll in the Senior Seminar in the fall term and work individually with a thesis adviser. Students have written on a wide range of topics in literature, culture, media, and politics.

## SLAVIC CULTURE AT COLUMBIA OUTSIDE OF THE CLASSROOM

All interested students are welcome to take part in departmental activities, such as conversation hours, Slavic student organizations, the department's various film series (Russian, East Central European, Central Asian, and Ukrainian), and the country's first undergraduate journal of Eastern European and Eurasian Culture, *The Birch*. The Slavic Department has close ties to the Harriman Institute and the East Central European Center, which sponsor lectures, symposia, performances, and conferences.

## STUDY AND RESEARCH ABROAD

The department encourages its students to enrich their cultural knowledge and develop their language skills by spending a semester or summer studying in Russia, the Czech Republic, Poland, Ukraine, or the countries of the former Yugoslavia. The department helps students find the program that suits their needs and interests. Undergraduates may apply to the Harriman Institute for modest scholarships for research during winter/spring breaks or the summer.

## FACULTY PROFESSORS

- Boris Gasparov
- Frank J. Miller

- Catharine Nepomnyashchy (Barnard)
- Cathy Popkin
- Irina Reyfman
- Alan Timberlake (Chair)

## ASSOCIATE PROFESSORS

- Valentina Izmirlieva
- Liza Knapp
- Tatiana Smoliarova

## VISITING ASSISTANT PROFESSORS

- Edward Tyerman (Barnard)

## SENIOR LECTURERS

- Anna Frajlich-Zajac
- Alla Smyslova

## LECTURERS

- Aleksandar Boskovic
- Anna Dvigubski (Barnard)
- Christopher Harwood
- Nataliya Kun  
Yuri Shevchuk

## ON LEAVE

- Profs. Popkin, Reyfman (*2014-2015*)
- Prof. Gasparov (*Spring 2015*)
- Prof. Izmirlieva (*Spring 2015*)

## REQUIREMENTS

### GUIDELINES FOR ALL SLAVIC MAJORS AND CONCENTRATORS

#### Senior Thesis

A senior thesis is not required for any Slavic 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 RUSS V3595 Senior Seminar in the fall term of their senior year. Students can opt to expand the thesis into a two-semester project register for RUSS W3998 Supervised Individual Research, with their thesis adviser, in the spring term of their senior year. *Senior Seminar* may 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.

## 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, distributed as follows:

Eight semesters of coursework in Russian language (from first- through fourth-year Russian) or the equivalent

Select two of the following surveys; at least one of these should be a Russian culture survey (RUSS V3223, RUSS V3228, or SLCL W3001):

RUSS V3220	Literature and Empire: The Reign of the Novel in Russia (19th Century) [In English]
RUSS V3221	Literature & Revolution [In English]
RUSS V3223	Magical Mystery Tour: The Legacy of Old Rus' [In English]
RUSS V3228	Russian Literature & Culture in the New Millennium
SLCL W3001	Slavic Cultures
CLRS W4431	Theatricality and Spectacle in the History of Russian Culture

Five additional courses in Russian culture, history, literature, art, film, music, or in linguistics, chosen in consultation with the director of undergraduate studies. At least one of the selected courses should be taught in Russian

## 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, distributed as follows:

Six semesters of coursework in Russian language (from first- through third-year Russian) or the equivalent.



Select three of the following surveys:

RUSS  
V3220 Literature and Empire: The Reign of the Novel in Russia (19th Century) [In English]

RUSS  
V3221 Literature & Revolution [In English]

RUSS  
V3223 Magical Mystery Tour: The Legacy of Old Rus' [In English]

RUSS  
V3228 Russian Literature & Culture in the New Millennium

SLCL  
W3001 Slavic Cultures

CLRS  
W4431 Theatricality and Spectacle in the History of Russian Culture

Six additional courses in Russian literature, culture, history, film, art, music, or in advanced Russian language, chosen in consultation with the director of undergraduate studies. At least one course should be taught in Russian

Students considering graduate study in Russian literature are strongly advised to complete four years of language training.

## MAJOR IN SLAVIC STUDIES

This flexible major provides opportunities for interdisciplinary studies within the Slavic field. Students are encouraged to choose one target language (Bosnian-Croatian-Serbian, Czech, Polish, Russian, 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, distributed as follows:

Six semesters of coursework in one Slavic language (from first- through third-year Russian, Bosnian-Croatian-Serbian, Czech, Polish, or Ukrainian) or the equivalent.

Two relevant courses in Russian, East/Central European or Eurasian history.

Two relevant literature or culture courses in Slavic, preferably related to the target language.

Five additional courses with Slavic content in history, political science, economics, literature, religion, anthropology, sociology, art, film, or music, chosen in consultation with the director of undergraduate studies.

Two of these electives may be language courses for students who opt to include a second Slavic language in their program.

Altogether students should complete four courses in a single discipline, including, if appropriate, the required history or literature/culture courses.

## 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, distributed as follows:

Six semesters of coursework in Russian language (from first- through third-year Russian) or the equivalent.

Select one of the following surveys:

RUSS  
V3223 Magical Mystery Tour: The Legacy of Old Rus' [In English]

RUSS  
V3228 Russian Literature & Culture in the New Millennium

SLCL  
W3001 Slavic Cultures

CLRS  
W4431 Theatricality and Spectacle in the History of Russian Culture

Three additional courses in Russian culture, history, literature, art, film, music, or in linguistics, chosen in consultation with the director of undergraduate studies; at least one of the selected courses should be taught in Russian.

## 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, distributed as follows:

Six semesters of coursework in one Slavic language (from first- through third-year Bosnian-Croatian-Serbian, Czech, Polish, or Ukrainian) or the equivalent.



Four additional courses in Slavic literature, culture or history, or in linguistics, chosen in consultation with the director of undergraduate studies; at least two should be directly related to the target language of study.

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## 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, distributed as follows:

Four semesters of coursework in Russian language (first- and second-year Russian) or the equivalent.

Select two of the following surveys:

RUSS V3220	Literature and Empire: The Reign of the Novel in Russia (19th Century) [In English]
RUSS V3221	Literature & Revolution [In English]
RUSS V3223	Magical Mystery Tour: The Legacy of Old Rus' [In English]
RUSS V3228	Russian Literature & Culture in the New Millennium
SLCL W3001	Slavic Cultures
CLRS W4431	Theatricality and Spectacle in the History of Russian Culture

Four additional courses in Russian literature, culture, and history, chosen in consultation with the director of undergraduate studies.

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## CONCENTRATION IN SLAVIC STUDIES

This flexible concentration provides opportunities for interdisciplinary studies within the Slavic field. Students are encouraged to choose one target language (Bosnian-Croatian-Serbian, Czech, Polish, Russian, 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, distributed as follows:

Four semesters of coursework in one Slavic language (first- and second-year Bosnian-Croatian-Serbian, Czech, Polish, Russian, or Ukrainian) or the equivalent.

One relevant courses in Russian, East/Central European or Eurasian history.

One relevant literature or culture course in Slavic, preferably related to the target language.

Four additional courses with Slavic content in history, political science, economics, literature, religion, anthropology, sociology, art, film, or music, chosen in consultation with the director of undergraduate studies

Altogether students should complete three courses in a single discipline, including, if appropriate, the required history or literature/culture courses.

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## 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 8 courses, with no language requirements, distributed as follows:

Select two of the following Russian literature surveys (in translation):

RUSS V3220	Literature and Empire: The Reign of the Novel in Russia (19th Century) [In English]
RUSS V3221	Literature & Revolution [In English]
RUSS V3228	Russian Literature & Culture in the New Millennium

Six additional courses, focused primarily on Russian literature, culture, and history, though courses in other Slavic literatures are also acceptable if approved by the director of undergraduate studies.

Relevant literature courses from other departments may count toward the concentration only if approved by the director of undergraduate studies.

# SOCIOLOGY

**Department Office:** 501A Knox; 212-854-4226  
<http://www.sociology.columbia.edu>

**Director of Undergraduate Studies:** Prof. Karen Barkey,  
 601C Knox; 212-854-5622; kb7@columbia.edu

**Academic Department Administrator:** Jacqueline Pineda-  
 Vega, 501B Knox; 212-854-9890; jp2280@columbia.edu

**Undergraduate Program Assistant:** Dora Arenas, 501A  
 Knox; 212-854-4226; da9@columbia.edu

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 and 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 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. 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 Seminar* (SOCI W3995-SOCI W3996).

In order to register for the *Senior 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 Seminar. Submissions of research projects

are due by May 1 preceding the seminar. Normally no more than 10% of graduating majors in the department receive departmental honors each year.

## GRADING

A letter grade of C- or better is needed in all Sociology courses in order to satisfy the program requirements.

## FACULTY PROFESSORS

- Karen Barkey
- Peter Bearman
- Yinon Cohen
- Jonathan R. Cole
- Thomas A. DiPrete
- Gil Eyal (Chair)
- Priscilla Ferguson
- Todd Gitlin (Journalism)
- Bruce Kogut (Business)
- Bruce Link (School of Public Health)
- Debra C. Minkoff (Chair, Barnard)
- Alondra Nelson
- Aaron Pallas (Teachers College)
- Jonathan Rieder (Barnard)
- Saskia Sassen
- Seymour Spilerman
- David Stark
- Diane Vaughan
- Sudhir Alladi Venkatesh
- Amy Stuart Wells (Teachers College)

## ASSOCIATE PROFESSORS

- Courtney Bender (Religion)
- Elizabeth Bernstein (Barnard)
- Shamus Khan (Director of Graduate Studies)
- Jennifer Lena (Teachers College)
- Emmanuelle Saada (French and Romance Philology)
- Julien Teitler (Social Work)
- Josh Whitford

## ASSISTANT PROFESSORS

- Debbie Becher (Barnard)
- Christel Kesler (Barnard)
- Yao Lu
- Adam Reich
- Carla Shedd
- Van Tran
- Dan Wang (Business School)

## LECTURERS

- Denise Milstein
- Teresa Sharpe

## ON LEAVE

- Prof. Shedd (2014-2015)
- Prof. Khan (Fall 2014)
- Profs. Cohen and Whitford (Spring 2015)

## REQUIREMENTS

### MAJOR IN SOCIOLOGY

A minimum of 30-31 points is required as follows:

Required: The following three courses (10 points)

SOCI W1000 The Social World

SOCI W3000 Social Theory

SOCI W3010 Methods for Social Research

Electives: Six courses (20-21 points) in the department of sociology, to include at least three lecture courses (2000- or 3000-level, 3 points each) and at least two seminars (4 points each). The sixth course could be either a lecture course (to a total of 30 points) or a seminar (to a total of 31 points). For students taking the two-semester Senior Seminar, the sixth course must be a seminar. \*

SOCI W3296 Paris: The Making of a Modern City

SOCI W3324 Global Urbanism

SOCI V3235 Social Movements: Collective Action

SOCI W3490 Mistake, Misconduct, Disaster

SOCI W3671 Media, Culture, & Society in the Age of the Internet

SOCI W3675 Organizing Innovation

SOCI W3900 Societal Adaptations to Terrorism

SOCI W3930 Immigration and Ethnicity in Israel

SOCI W3980 Immigrant New York: The Changing American City

SOCI W3995 Senior Seminar

SOCI G4138 Ethno-Religious Identity and Politics in the Middle East and South Asia

\* These may include the two-semester *Senior Seminar* (SOCI W3995- SOCI W3996).

Electives: Three courses (10 points) in the department of sociology, one of which must be a seminar.

SOCI W3296 Paris: The Making of a Modern City

SOCI W3324 Global Urbanism

SOCI V3235 Social Movements: Collective Action

SOCI W3490 Mistake, Misconduct, Disaster

SOCI W3671 Media, Culture, & Society in the Age of the Internet

SOCI W3675 Organizing Innovation

SOCI W3900 Societal Adaptations to Terrorism

SOCI W3930 Immigration and Ethnicity in Israel

SOCI W3980 Immigrant New York: The Changing American City

SOCI W3995 Senior Seminar

SOCI G4138 Ethno-Religious Identity and Politics in the Middle East and South Asia

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## CONCENTRATION IN SOCIOLOGY

A minimum of 20 points is required as follows:

Required: The following three courses (10 points)

SOCI W1000 The Social World

SOCI W3000 Social Theory

SOCI W3010 Methods for Social Research

# STATISTICS

## Statistics Department Office:

1005 School of Social Work (1255 Amsterdam Avenue);  
212-851-2132  
<http://www.stat.columbia.edu>

## Statistics Major and Concentration Advising:

Daniel Rabinowitz; 1014 School of Social Work;  
212-851-2141; [dan@stat.columbia.edu](mailto:dan@stat.columbia.edu)

## Economics-Statistics Major Advising:

*Economics:* Susan Elmes, 1006 International Affairs Building;  
212-854-9124; [se5@columbia.edu](mailto:se5@columbia.edu)  
*Statistics:* Daniel Rabinowitz, 1014 School of Social Work;  
212-851-2141; [dan@stat.columbia.edu](mailto:dan@stat.columbia.edu)

## Mathematics-Statistics Major Advising:

*Mathematics:* Ioannis Karatzas, 619 Mathematics;  
212-854-3177; [ik@math.columbia.edu](mailto:ik@math.columbia.edu)  
*Statistics:* Daniel Rabinowitz, 1014 School of Social Work;  
212-851-2141; [dan@stat.columbia.edu](mailto:dan@stat.columbia.edu)

## Political Science—Statistics Major Advising:

*Political Science:* Robert Shapiro, 726 International Affairs  
Building; 212-854-3944; [rys2@columbia.edu](mailto:rys2@columbia.edu)  
*Statistics:* Daniel Rabinowitz, 1014 School of Social Work;  
212-851-2141; [dan@stat.columbia.edu](mailto:dan@stat.columbia.edu)

## Department Administrator:

Dood Kalicharan, 1003 School of Social Work;  
212-851-2130; [dk@stat.columbia.edu](mailto:dk@stat.columbia.edu)

The department offers introductory survey courses, a concentration in applied statistical methods, a major in statistics, and interdepartmental majors with Computer Science, Economics, Mathematics, and Political Science.

The three survey courses serve as an introduction for consumers of statistics, as prerequisites in other departments, and for students considering going on to the concentration or the major. They vary in their mathematical sophistication: *STAT W1001 Introduction to Statistical Reasoning* is designed for students who have taken a pre-calculus course—and the emphasis is on general principles; *STAT W1111 Introduction to Statistics (without calculus)* 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 Introduction to Statistics (with calculus)* is designed for students who have taken some calculus—and the emphasis is on theory.

Four courses, *STAT W2024 Applied Linear Regression Analysis*, *STAT W2025 Applied Statistical Methods*, *STAT W2026 Statistical Applications and Case Studies*, and *STAT W3026 Applied Data Mining*, (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 foundations of probability theory and statistical inference. The foundation courses include prerequisites in mathematics, *STAT W3105 Introduction to Probability*, *STAT W3107 Introduction to Statistical Inference*, and *STAT W3315 Linear Regression Models*.

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.

## DEPARTMENTAL HONORS

Students are considered for departmental honors on the basis of grade point average and the comprehensiveness and difficulty of the study program. For departmental honors in an interdisciplinary major, students must also meet the standard in the other department. Normally no more than 10% of the graduating majors in the department each year may receive departmental honors.

## 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.

## FACULTY PROFESSORS

- Jose Blanchet (Industrial Engineering and Operations Research)
- David Blei (Computer Science)
- Mark Brown
- Richard R. Davis
- Victor H. de la Peña
- Andrew Gelman
- Shaw-Hwa Lo
- David Madigan
- Ioannis Karatzas (Mathematics)

- Liam Paninski
- Phillip Protter
- Michael Sobel
- Daniel Rabinowitz
- Zhiliang Ying

## ASSOCIATE PROFESSORS

- Jingchen Liu
- Bodhisattva Sen
- Tian Zheng

## ASSISTANT PROFESSORS

- John Cunningham
- Yang Feng
- Lauren Hannah
- Arian Maleki
- Rahul Mazumder
- Sumit Mukherjee
- Marcel Nutz
- Peter Orbanz

## TERM ASSISTANT PROFESSORS

- Emanuel Ben-David
- Giovanni Motta
- Shawn Simpson
- Victoria Stodden
- Hongzhong Zhang

## ADJUNCT PROFESSORS

- Demissie Alemayehu
- Flavio Bartmann
- Guy Cohen
- Regina Dolgoarshinnykh
- Anthony Donoghue
- Hammou Elbarmi
- Birol Emir
- Irene Hueter
- James Landwehr
- Ha Nguyen

## LECTURERS IN DISCIPLINE

- Banu Baydil
- Ronald Neath

## REQUIREMENTS

### 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:

#### Introductory Courses: Select one of the following:

STAT W1001 Introduction to Statistical Reasoning

STAT W1111 Introduction to Statistics (without calculus)

STAT W1211 Introduction to Statistics (with calculus)

#### Required Courses

MATH          Calculus I  
V1101

STAT W3103 Mathematical Methods for Statistics

STAT W3105 Introduction to Probability

STAT W3107 Introduction to Statistical Inference

STAT W3315 Linear Regression Models

#### Five electives chosen from the Statistics Department offerings

##### Electives Example 1: For students preparing for a career in actuarial science:

STAT W4840 Theory of Interest

ACTU K4821 Actuarial Methods

STAT W4440 Linear Regression and Time Series Methods

STAT W4543 Survival Analysis

ACTU K4830 Stochastic Processes for Actuarial Science

##### Electives Example 2: For students preparing for a career in finance:

STAT W4290 Statistical Methods in Finance

STAT W4437 Time Series Analysis

STAT W4635 Stochastic Processes for Finance

STAT G6505 Stochastic Methods In Finance

STAT G6503 Statistical Inference and Time-Series Modelling

##### Electives Example 3: For students preparing for a career in the health sciences, five of:

STAT W4240 Data Mining

STAT W4325 Generalized Linear Models

STAT W4330 Multilevel Models

STAT W4335 Sample Surveys

STAT W4543 Survival Analysis

STAT W4413 Nonparametric Statistics

##### Electives Example 4: For students preparing for quantitative research in the social sciences, five of:

STAT W2025 Applied Statistical Methods

STAT W3026 Applied Data Mining

STAT W4330 Multilevel Models

STAT W4335 Sample Surveys

STAT W4413 Nonparametric Statistics

STAT W4325 Generalized Linear Models

##### Electives Example 5: For students preparing for quantitative research in the biological sciences, five of:



STAT W2024	Applied Linear Regression Analysis
STAT W2025	Applied Statistical Methods
STAT W2026	Statistical Applications and Case Studies
STAT W3026	Applied Data Mining
STAT W4606	Elementary Stochastic Processes
STAT W4330	Multilevel Models
STAT W4325	Generalized Linear Models
STAT W4543	Survival Analysis

**Electives Example 6: For students preparing for graduate study in statistics:**

STAT W4606	Elementary Stochastic Processes
STAT W4413	Nonparametric Statistics
MATH W4061	Introduction To Modern Analysis and Introduction To Modern Analysis
- MATH W4062	

And select four of the following:

STAT W4240	Data Mining
STAT W4335	Sample Surveys
STAT W4543	Survival Analysis
STAT W4330	Multilevel Models
STAT W4437	Time Series Analysis

**Electives Example 7: For students seeking training in applied statistics and data mining**

STAT W2024	Applied Linear Regression Analysis
STAT W2025	Applied Statistical Methods
STAT W2026	Statistical Applications and Case Studies
STAT W4240	Data Mining

And select one of the following:

STAT W4413	Nonparametric Statistics
STAT W4543	Survival Analysis
STAT W4325	Generalized Linear Models
STAT W4330	Multilevel Models
STAT W4335	Sample Surveys
STAT W4437	Time Series Analysis

Approved variations of the major requirements include the following:

- Students may replace STAT W1001 Introduction to Statistical Reasoning, STAT W1111 Introduction to Statistics (without calculus), or STAT W1211 Introduction to Statistics (with calculus) with PSYC W1610 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=PSYC%20W1610>) Introductory Statistics for Behavioral Scientists .
- Students may replace STAT W3103 Mathematical Methods for Statistics with MATH V1102 Calculus II, MATH V2010 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=MATH%20V2010>) Linear Algebra , and one of COMS W1004 Introduction to Computer Science and Programming in Java, COMS

W1005 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=COMS%20W1005>) Introduction to Computer Science and Programming in MATLAB , ENGI E1006 Introduction to Computing for Engineers and Applied Scientists, or COMS W1007 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=COMS%20W1007>) Honors introduction to Computer Science .

- Students may replace STAT W3105 Introduction to Probability with STAT W4105 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W4105>) Introduction to Probability ; STAT W3107 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W3107>) Introduction to Statistical Inference with STAT W4107 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W4107>) Introduction to Statistical Inference ; and STAT W3315 Linear Regression Models with STAT W4315 Linear Regression Models; students may also replace STAT W3105 Introduction to Probability and *STAT W3107 Introduction to Statistical Inference* with the six point course STAT W4109 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W4109>) Introduction to Probability and Statistics .
- Students preparing for a career in actuarial science may replace STAT W3315 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W3315>) Linear Regression Models with STAT W4440 Linear Regression and Time Series Methods, 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 or Actuaries.
- Students may replace up to two statistics electives with approved advanced mathematics electives.
- Students preparing for doctoral study in Statistics should consider MATH W4061 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=MATH%20W4061>) Introduction To Modern Analysis and MATH W4062 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=MATH%20W4062>) Introduction To Modern Analysis and may wish to enroll in doctoral level courses in Statistics.

## CONCENTRATION IN STATISTICS

Courses in which the grade of D has been received do not count towards the concentration. The requirements for the concentration are as follows.

**Introductory Courses: Select one of the following:**

STAT W1001	Introduction to Statistical Reasoning
STAT W1111	Introduction to Statistics (without calculus)
STAT W1211	Introduction to Statistics (with calculus)

**Required Courses**

STAT W2024	Applied Linear Regression Analysis
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STAT W2025 Applied Statistical Methods  
 STAT W2026 Statistical Applications and Case Studies  
 STAT W3026 Applied Data Mining  
 STAT W3997 Independent Research

- Students may replace courses required for the concentration by approved Statistics Department offerings numbered above 4200. MATH V1101 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=MATH%20V1101>) Calculus I and one of COMS W1004 Introduction to Computer Science and Programming in Java, COMS W1005 Introduction to Computer Science and Programming in MATLAB, ENGI E1006 Introduction to Computing for Engineers and Applied Scientists, or COMS W1007 Honors Introduction to Computer Science are recommended.

## MAJOR IN COMPUTER SCIENCE-STATISTICS

In response to the ever growing importance of "big data" in scientific and policy endeavors, the last few years have seen an explosive growth in theory, methods, and applications at the interface between computer science and statistics. The Statistics Department and the Department of Computer Science have responded with a joint-major that emphasizes the interface between the disciplines.

### Prerequisites

MATH V1101 Calculus I

MATH V1102 Calculus II

MATH V1201 Calculus III

MATH V2010 Linear Algebra

### Statistics

Introductory Courses: Select one of the following:

STAT W1001 Introduction to Statistical Reasoning

STAT W1111 Introduction to Statistics (without calculus)

STAT W1211 Introduction to Statistics (with calculus)

Required Courses

STAT W3105 Introduction to Probability

or STAT W4105 Introduction to Probability

STAT W3107 Introduction to Statistical Inference

or STAT W4107 Introduction to Statistical Inference

STAT W3315 Linear Regression Models

or STAT W4315 Linear Regression Models

STAT W4400 Statistical Machine Learning  
 or COMS W4771 Machine Learning

### Computer Science

Introductory Classes: Select one of the following:

COMS W1004 Introduction to Computer Science and Programming in Java

COMS W1005 Introduction to Computer Science and Programming in MATLAB

ENGI E1006 Introduction to Computing for Engineers and Applied Scientists

COMS W1007 Honors Introduction to Computer Science

And select one of the following:

COMS W3134 Data Structures in Java

COMS W3136 Data Structures with C/C++

COMS W3137 Honors Data Structures and Algorithms

Required Courses

COMS W3203 Discrete Mathematics: Introduction to Combinatorics and Graph Theory

COMS W3210 Scientific Computation

CSOR W4231 Analysis of Algorithms I

### Electives

Select two of the following:

STAT W3026 Applied Data Mining

STAT W4240 Data Mining

STAT W4199 Statistical Computing in SAS

STAT W4242 Introduction to Data Science

STAT W4606 Elementary Stochastic Processes

STAT W4249 Applied Data Science

Select one of the following:

COMS W3261 Computer Science Theory

COMS W4236 Introduction to Computational Complexity

COMS W4252 Introduction to Computational Learning Theory

COMS W4111 Introduction to Databases

COMS Principles and Practice of Parallel  
W4130 Programming  
Any COMS W47xx course

## MAJOR IN ECONOMICS- STATISTICS

Please read *Requirements for all Economics Majors, Concentrators, and Interdepartmental Majors in the Economics* (<http://bulletin.columbia.edu/archive/2014-15/columbia-college/departments-instruction/economics>) section of this Bulletin.

The major in Economics-Statistics provides students with a grounding in economic theory comparable to that of the general economics major, but also exposes students to a more rigorous and extensive statistics training. This program is recommended for students with strong quantitative skills and for those 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. The economics adviser can only advise on economics requirements and the statistics adviser can only advise on statistics requirements.

### Students who declare prior to Spring 2014:

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:

#### Economics Core Courses

Complete the Economics core courses.

#### Economics Electives

Three electives at the 3000-level or above, of which no more than one may be a Barnard course.

#### Mathematics

Select one of the following sequences:

MATH Calculus I  
V1101 and Calculus II  
- MATH and Calculus III  
V1102 and Linear Algebra  
- MATH  
V1201  
- MATH  
V2010

MATH Honors Mathematics A  
V1207 and Honors Mathematics B  
- MATH  
V1208

#### Statistics

STAT W1211 Introduction to Statistics (with calculus)

STAT W3105 Introduction to Probability

STAT W3107 Introduction to Statistical Inference

STAT W4315 Linear Regression Models

One elective (excluding STAT W1001, STAT W1111, STAT W2110 and SIEO W4150)

#### Computer Science

Select one of the following:

COMS Introduction to Computer Science and  
W1004 Programming in Java

COMS Introduction to Computer Science and  
W1005 Programming in MATLAB

COMS Honors Introduction to Computer Science  
W1007

#### Seminar

ECON Seminar In Econometrics  
W4918

### Students who declare in Spring 2014 or beyond:

In addition to the above requirements, students are required to take three ECON electives at the 3000-level or above.

## 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.

#### Mathematics

Select one of the following sequences:

MATH Calculus I  
V1101 and Calculus II  
- MATH and Calculus III  
V1102 and Linear Algebra  
- MATH and Analysis and Optimization  
V1201  
- MATH  
V2010  
- MATH  
V2500

MATH Honors Mathematics A  
V1207 and Honors Mathematics B  
- MATH and Analysis and Optimization  
V1208  
- MATH  
V2500

#### Statistics

Introductory Courses: Select one of the following:

STAT W1211 Introduction to Statistics (with calculus)

STAT W1001 Introduction to Statistical Reasoning

STAT W1111 Introduction to Statistics (without calculus)

#### Required Courses

STAT W3105 Introduction to Probability

STAT W3107 Introduction to Statistical Inference

STAT W3315 Linear Regression Models

Select one of the following:

STAT W4606 Elementary Stochastic Processes

STAT W4635 Stochastic Processes for Finance

STAT G6505 Stochastic Methods In Finance

#### Computer Science

Introductory Courses: Select one of the following:

COMS W1004 Introduction to Computer Science and Programming in Java

COMS W1005 Introduction to Computer Science and Programming in MATLAB

ENGI E1006 Introduction to Computing for Engineers and Applied Scientists

COMS W1007 Honors Introduction to Computer Science

An advanced Computer Science offering in programming

#### 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 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=MATH%20V3027>) Ordinary Differential Equations and MATH V3028 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=MATH%20V3028>) Partial Differential Equations .
- Students interested in finance are recommended to take MATH W4071 Introduction to the Mathematics of Finance, STAT W4290 Statistical Methods in Finance, and STAT W4437 Time Series Analysis.
- Students interested in graduate study in mathematics or in statistics are recommended to take MATH W4061 Introduction To Modern Analysis and MATH W4062 Introduction To Modern Analysis.

- 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 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W3105>) Introduction to Probability with STAT W4105 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W4105>) Introduction to Probability , STAT W3107 Introduction to Statistical Inference with STAT W4107 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W4107>) Introduction to Statistical Inference , and STAT W3315 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W3315>) Linear Regression Models with STAT W4315 Linear Regression Models or STAT W4440 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W4440>) Linear Regression and Time Series Methods , and students may replace STAT W3105 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W3105>) Introduction to Probability and STAT W3107 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W3107>) Introduction to Statistical Inference with the combined course STAT W4109 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W4109>) Introduction to Probability and Statistics .

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## MAJOR IN POLITICAL SCIENCE–STATISTICS

The interdepartmental 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.

Students take courses in mathematics and 31 or 34 points in political science, statistics and computer science.

#### Political Science

Select one of the following introductory courses in one of the major subfields:

American Politics:



POLS Introduction To American Government  
W1201 and Politics

Comparative Politics:

POLS Comparative Politics  
V1501

International Relations:

POLS International Politics  
V1601

Political Theory:

POLS Political Theory  
V1013

POLS Political Thought - Classical and Medieval  
W4133

POLS Modern Political Thought  
W4134

Six points in the same subfield as the introductory course

A four point seminar in the same subfield

POLS W4910 Principles of Quantitative Political  
- POLS Research  
W4911 and Analysis of Political Data

### Statistics

Select one of the following introductory courses:

STAT Introduction to Statistical Reasoning  
W1001

STAT Introduction to Statistics (without  
W1111 calculus)

STAT Introduction to Statistics (with calculus)  
W1211

Select one of the following sequences:

STAT Mathematical Methods for Statistics  
W3103 and Introduction to Probability  
- STAT and Introduction to Statistical Inference  
W3105 and Linear Regression Models  
- STAT  
W3107  
- STAT  
W3315

STAT Applied Linear Regression Analysis  
W2024 and Applied Statistical Methods  
- STAT and Statistical Applications and Case  
W2025 Studies  
- STAT and Applied Data Mining  
W2026  
- STAT  
W3026

An approved elective in a statistics or a quantitatively oriented course in a social science.

### Computer Science

Select one of the following:

COMS Introduction to Computer Science and  
W1004 Programming in Java

COMS Introduction to Computer Science and  
W1005 Programming in MATLAB

ENGI Introduction to Computing for Engineers  
E1006 and Applied Scientists

COMS Honors Introduction to Computer Science  
W1007

Students may substitute STAT W4105 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W4105>) Introduction to Probability for STAT W3105 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W3105>) Introduction to Probability , STAT W4107 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W4107>) Introduction to Statistical Inference for STAT W3107 Introduction to Statistical Inference, and STAT W4315 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W4315>) Linear Regression Models for STAT W3315 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W3315>) Linear Regression Models .

Students preparing for advanced study in statistics should take the STAT W3105 Introduction to Probability, STAT W3107 Introduction to Statistical Inference, STAT W3315 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W3315>) Linear Regression Models sequence and should consider substituting MATH V1101 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=MATH%20V1101>) Calculus I , MATH V1102 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=MATH%20V1102>) Calculus II , and MATH V2010 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=MATH%20V2010>) Linear Algebra for STAT W3103 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W3103>) Mathematical Methods for Statistics .

Students preparing to apply statistical methods should take the STAT W2024 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W2024>) Applied Linear Regression Analysis , STAT W2025 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W2025>) Applied Statistical Methods , STAT W2026 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W2026>) Statistical Applications and Case Studies , STAT W3026 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=STAT%20W3026>) Applied Data Mining sequence.

Students may replace the POLS V1013 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=POLS%20V1013>) Political Theory , POLS W4133 Political Thought - Classical and Medieval, or POLS W4134 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=POLS%20W4134>) Modern Political Thought requirement with COCI C1101 (<http://bulletin.columbia.edu/archive/2014-15/search/?P=COCI%20C1101>) Introduction To Contemporary Civilization and COCI C1102 (<http://bulletin.columbia.edu/>



archive/2014-15/search/?P=COCI%20C1102) Introduction  
To Contemporary Civilization (CC students) or COCI F1101  
Contemporary Civilization and COCI F1102 Contemporary  
Civilization (GS students).

# SUSTAINABLE DEVELOPMENT

**Departmental Office:** The Earth Institute, Office of Academic and Research Programs, Hogan, B-Level, <http://sdev.ei.columbia.edu>

**Co-Directors of Undergraduate Studies:**

Ruth DeFries, 212-851-1647; [rd2402@columbia.edu](mailto:rd2402@columbia.edu)  
 Kevin Griffin, 845-365-8371; [griff@ldeo.columbia.edu](mailto:griff@ldeo.columbia.edu)  
 Jason Smerdon, 845-365-8493; [jsmerdon@ldeo.columbia.edu](mailto:jsmerdon@ldeo.columbia.edu)

**Program Administrators:**

Natalie Unwin-Kuruner, 212-854-8536;  
[natalie@ei.columbia.edu](mailto:natalie@ei.columbia.edu)  
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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. The term "sustainable" refers to managing the world's economy in a manner consistent with the continued healthy functioning of Earth's ecosystems, oceans, atmosphere and climate. In this context, "development" refers to continued social, political and economic progress aimed at improving the well-being of the global community, especially for the poorest people.

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 - offers a major and a special concentration in sustainable development.

These programs are designed to: engage students in this emergent interdisciplinary discussion, provide knowledge of the theory and practice of sustainable development, stimulate a critical examination of historical and conceptual antecedents, 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 are 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 provides 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, who advises on class selection and career development. Students benefit from a support system of 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 nonprofit sectors, and to pursue advanced degrees. Those interested in sustainable development are encouraged to participate in lectures, conferences, and other programs sponsored by the Earth Institute.

A letter grade of C- or better is needed in all program related courses in order to satisfy the program requirements.

## FACULTY

### 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 (Philosophy)
- Shahid Naeem (Ecology, Evolution, and Environmental Biology)
- Stephanie Pfirman (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)

## REQUIREMENTS MAJOR IN SUSTAINABLE DEVELOPMENT

The sustainable development foundation courses should be taken first and students should then work with the program adviser on further course selection and sequencing. A minimum of 15 courses and a practicum are required as follows:

### Sustainable Development Foundation

SDEV W1900 Introduction to Sustainable Development Seminar

SDEV W2300 Challenges of Sustainable Development

EESC W2330 Science for Sustainable Development

### Basic Disciplinary Foundation

Select one of the following science sequences:

EEEE W2001 Environmental Biology I: Elements to Organisms  
- EEEB W2002 and Environmental Biology II: Organisms to the Biosphere

CHEM C1403 General Chemistry I (Lecture) and General Chemistry II (Lecture)  
- CHEM W1404

PHYS V1202 General Physics and General Physics  
- PHYS V1202

EAAE E2100 A better planet by design and  
- EESC V1600

EESC V2100 Earth's Environmental Systems: Climate and Earth's Environmental Systems: Solid Earth  
- EESC V2200

EESC V2100 Earth's Environmental Systems: Climate and Earth's Environmental Systems: Life Systems  
- EESC V2300

Select two of the following social science courses:

ANTH V1002 The Interpretation of Culture

ECON W1105 Principles of Economics

POLS V1501 Comparative Politics

POLS V1601 International Politics

SDEV W3400 Human Populations and Sustainable Development

SDEV W2000 Introduction to Environmental Law

SOCI W1000 The Social World

Select one of the following quantitative foundations courses:

EEEE W3005 Introduction to Statistics for Ecology and Evolutionary Biology

EESC BC3017 Environmental Data Analysis

STAT W1211 Introduction to Statistics (with calculus)

STAT W2024 Applied Linear Regression Analysis

STAT W2025 Applied Statistical Methods

STAT W2026 Statistical Applications and Case Studies

STAT W3026 Applied Data Mining

STAT W3105 Introduction to Probability

STAT W3107 Introduction to Statistical Inference

STAT W4105 Introduction to Probability

STAT W4107 Introduction to Statistical Inference

STAT W4315 Linear Regression Models

STAT W4606 Elementary Stochastic Processes

MATH V2010 Linear Algebra

### Analysis and Solutions to Complex Problems

Select two of the following:

CIEE E3260 Engineering for developing communities

EAAE W4304 Closing the carbon cycle

EESC BC3032 Agricultural and Urban Land Use: Human-Environment Interactions

EESC W4600 Earth Resources and Sustainable Development

ECIA W4100 Management and development of water systems

PUBH W3100 Fundamentals of Global Health

SDEV W3200 Global Food Systems

SDEV W3330 Ecological and Social Systems for Sustainable Development

SDEV W3355	Climate Change and Law
SDEV W3360	Disasters and Development
SDEV W3366	Energy Law
SDEV W3410	Urbanization and Sustainable Development
PLAN A4579	Introduction to Environmental Planning
URBS V3565	Cities in Developing Countries: Problems and Prospects
The Summer Ecosystems Experience for Undergraduates (SEE-U) *	

**Skills/Actions**

Select two of the following:

EAAE E4257	Environmental data analysis and modeling
EESC W4050	Global Assessment and Monitoring Using Remote Sensing
SDEV W2320	Economic and Financial Methods for Sustainable Development
SDEV W3390	GIS for Sustainable Development
SDEV W3450	Spatial Analysis and Modeling for Sustainable Development
SOCI W3010	Methods for Social Research
SUMA K4100	Sustainability Management
The Summer Ecosystems Experience for Undergraduates (SEE-U) *	

**Electives**

Select one of the following:

INAF U4420	Oil, Rights and Development
SUMA K4310	Practicum in Innovation Sustainability Leadership
SUMA K4734	Earth Institute Practicum

Select two of the following:

Additional courses from analysis and solutions to complex problem	
Additional courses from skills/actions	
Upper division courses from the list approved by program adviser	
EESC W3901 - EESC BC3800	Environmental Science Senior Seminar and Senior Research Seminar

**Capstone Workshop**

SDEV W3280 or SDEV W3550	Workshop in Sustainable Development Bangladesh: Life on a Tectonically Active Delta
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\* 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 can only count as one Complex Problems class.

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## SPECIAL CONCENTRATION IN SUSTAINABLE DEVELOPMENT

In addition to the requirements of the special concentration, students must complete a major or a full concentration.

In addition to the requirements of the special concentration, students must complete a major.

The sustainable development foundation courses should be taken first and students should then work with the program adviser on further course selection and sequencing. The requirements for the special concentration changed in Fall 2010. Students declared in the special concentration prior to the change may choose to follow either the new or the old requirements.

A minimum of 9 courses and a practicum are required as follows:

**Sustainable Development Foundation**

SDEV W1900	Introduction to Sustainable Development Seminar
SDEV W2300	Challenges of Sustainable Development
EESC W2330	Science for Sustainable Development

**Natural Science Systems**

Select one of the following:

EEEB W1001	Biodiversity
EAAE E2100	A better planet by design
EEEB W2002	Environmental Biology II: Organisms to the Biosphere
EESC W1201	Environmental Risks and Disasters
EESC V2100	Earth's Environmental Systems: Climate
EESC V2200	Earth's Environmental Systems: Solid Earth
EESC V1600	

EESC V1011/ V1411	Earth: Origin, Evolution, Processes, Future
EESC V1003	Climate and Society: Case Studies
CHEM C1403	General Chemistry I (Lecture)
PHYS V1201	General Physics

### Human Science Systems

Select one of the following:

ANTH V1002	The Interpretation of Culture
ECON W1105	Principles of Economics
POLS V1501	Comparative Politics
POLS V1601	International Politics
SDEV W2000	Introduction to Environmental Law
SDEV W3400	Human Populations and Sustainable Development
SOCI W1000	The Social World

### Analysis and Solutions to Complex Problems

Select two of the following:

CIEE E3260	Engineering for developing communities
EAAE W4304	Closing the carbon cycle
EESC BC3032	Agricultural and Urban Land Use: Human-Environment Interactions
PUBH W3100	Fundamentals of Global Health
ECIA W4100	Management and development of water systems
EESC W4600	Earth Resources and Sustainable Development
SDEV W3200	Global Food Systems
SDEV W3330	Ecological and Social Systems for Sustainable Development
SDEV W3355	Climate Change and Law
SDEV W3360	Disasters and Development
SDEV W3366	Energy Law
SDEV W3410	Urbanization and Sustainable Development

PLAN  
A4579 Introduction to Environmental Planning

URBS  
V3565 Cities in Developing Countries: Problems and Prospects

The Summer Ecosystem Experiences for Undergraduates (SEE-U) \*

### Skills/Actions

Select one of the following:

EAAE  
E4257 Environmental data analysis and modeling

EESC  
W4050 Global Assessment and Monitoring Using Remote Sensing

SCNC  
W3010 Science, technology and society

SDEV  
W2320 Economic and Financial Methods for Sustainable Development

SDEV  
W3390 GIS for Sustainable Development

SDEV  
W3450 Spatial Analysis and Modeling for Sustainable Development

SOCI  
W3010 Methods for Social Research

SUMA  
K4100 Sustainability Management

The Summer Ecosystem Experiences for Undergraduates (SEE-U) \*

### Practicum

Select one of the following:

SUMA  
K4310 Practicum in Innovation Sustainability Leadership

SUMA  
K4734 Earth Institute Practicum

INAF  
U4420 Oil, Rights and Development

### Capstone Workshop

SDEV W3280 Workshop in Sustainable Development or SDEV W3550 Bangladesh: Life on a Tectonically Active Delta

\* 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 can only count as one Complex Problems class.



# URBAN STUDIES

236 Milbank Hall  
212-854-4073

## MISSION

The Barnard–Columbia 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 OUTCOMES

Having successfully completed the major in Urban Studies, the student will be able to:

- Apply concepts or methods from more than one social science or adjacent discipline to analyze an urban issue or problem.
- Describe the distinctive social, cultural, and spatial features of cities and illustrate their impacts on the urban experience.
- Apply basic skills of empirical reasoning to an urban problem.
- Explain how the idea of the city varies in different historical and comparative contexts.
- Demonstrate familiarity with a particular disciplinary approach to the city as an object of study.
- Demonstrate understanding of the history and variety of urban forms and governance structures.
- 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.
- Communicate ideas effectively in written or oral form.
- Organize and present group research projects.

## FACULTY

**Director:** Kimberley S. Johnson (Associate Professor, Political Science and Urban Studies)

**Columbia College Advisor:** Kathryn Yatrakis (Dean of Academic Affairs, Columbia College)

**Professors:** Liz Abzug (Adjunct)

**Assistant Professors:** Gergely Baics (History and Urban Studies), Deborah Becher (Sociology), Susan Fine (Adjunct), Cindy Gorn (Adjunct), Thomas Kamber (Adjunct), Meredith Linn (Term, Urban Studies), Aaron Passell (Term, Urban Studies), Tom Waters (Adjunct), Şevin Yildiz (Term, Urban Studies)

This program is supervised by the Committee on Urban Studies:

**Director:** Kimberley S. Johnson (Associate Professor, Political Science)

**Professor of Professional Practice:** Karen Fairbanks (Chair, Architecture)

**Columbia College Advisor:** Kathryn Yatrakis (Dean of Academic Affairs, Columbia College)

**Professors:** Ester Fuchs (International and Public Affairs, CU), Kenneth T. Jackson (History), Jose Moya (History), Elliot Sclar (Urban Planning and Public Policy), Sudhir Venkatesh (Sociology), David Weiman (Economics)

**Associate Professor:** Randall Reback (Economics), Samuel Roberts (History and Sociomedical Sciences).

**Assistant Professors:** Gergely Baics (History), Deborah Becher (Sociology), Catherine Fennell (Anthropology), Meredith Linn (Term, Urban Studies), Maria Rivera Maulucci (Education)

## REQUIREMENTS

### MAJOR IN URBAN STUDIES

The major in urban studies is comprised of six curricular requirements:

#### Requirement A: Urban-Related Social Sciences (3 courses)

*One course* dealing primarily with urban subject matter from *each of three* of the following disciplines: Anthropology, Economics, History, Political Science, Sociology.

Many courses offered through Urban Studies may count towards Requirement A. For example, URBS V3420 Introduction to Urban Sociology counts as a Sociology course, URBS V3550 Community Building and Economic Development counts as a Political Science course, etc. Students must complete at least two of the Requirement A courses before taking the Junior Colloquia (see Requirement E, below). It is recommended that majors fulfill this requirement before their junior year.

## Requirement B: Urban-Related Non-Social Science (1 course)

One course dealing primarily with urban subject matter from a discipline not listed above (such as Architecture, Art History, English, Environmental Science, etc.)

## Requirement C: Methods of Analysis (1 course)

One course in methods of analysis, such as URBS V3200 Spatial Analysis: GIS Methods and Urban Case Studies.

## Requirement D: Specialization (5 courses)

Five or more courses in a specialization from one of the participating departments. Barnard College students can double-count one A, B, or C course toward this requirement (only one of five), with the approval of the Director; Columbia College and General Studies students cannot double-count courses. Barnard majors also have specific requirements for each specialization, which are outlined in detail on the program's website, [urban.barnard.edu](http://urban.barnard.edu) (<http://urban.barnard.edu>).

## Requirement E: Junior Colloquia (2 courses)

URBS V3545	Junior Colloquium: The Shaping of the Modern City	4
URBS V3546	Junior Colloquium: Contemporary Urban Issues	4

## Requirement F: Senior Seminar (2 courses)

A senior thesis written in conjunction with a two-semester research seminar, chosen from the following four options:

URBS V3992	Senior Seminar: The Built Environment	8
- URBS V3993	and Senior Seminar: The Built Environment	
URBS V3994	Senior Seminar: New York Field Research	8
- URBS V3995	and Senior Seminar: New York Field Research	
URBS V3996	Senior Seminar: International Topics in Urban Studies	8
- URBS V3997	and Senior Seminar: International Topics in Urban Studies	

A research seminar in the department of specialization. This option must be approved by the Program Director.

A complete list and courses that fulfill requirements A–E can be found on the program's website, [urban.barnard.edu](http://urban.barnard.edu) (<http://urban.barnard.edu>).

Appropriate substitutions may be made for courses listed above with the approval of the Program Director.

There is no concentration in urban studies.

# VISUAL ARTS

**Departmental Office:** 310 Dodge; 212-854-4065  
<http://arts.columbia.edu/visual-arts>

## Director of Undergraduate Studies:

- Spring 2015: Prof. Thomas Roma; [tr82@columbia.edu](mailto:tr82@columbia.edu)
- Fall 2014: Prof. Sanford Biggers; [sb3167@columbia.edu](mailto:sb3167@columbia.edu)

**Director of Academic Administration:** Carrie Gundersdorf;  
[cg2817@columbia.edu](mailto:cg2817@columbia.edu)

**Visual Arts Program Assistant:** Alexander Barnett;  
[ab3961@columbia.edu](mailto:ab3961@columbia.edu)

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 Archaeology Department.

## REGISTRATION

Visual Arts courses are open for on-line registration. If a Visual Arts class is full, visit [arts.columbia.edu/registration\\_info](http://arts.columbia.edu/registration_info).

## DECLARING A MAJOR IN VISUAL ARTS

The Visual Arts Undergraduate Program requires a departmental signature when declaring a major. Students should complete the appropriate Visual Arts Major Worksheet before meeting with the director of undergraduate studies. See:

- <http://blogs.cuit.columbia.edu/visualarts/files/2014/11/VAMajorWorksheet14.pdf>
- <http://blogs.cuit.columbia.edu/visualarts/files/2011/01/VACombinedWorksheet.pdf>
- <http://blogs.cuit.columbia.edu/visualarts/files/2014/11/VAConcWorksheet14.pdf>

## FACULTY PROFESSORS

- Gregory Amenoff
- Jon Kessler
- Thomas Roma
- Sarah Sze
- Rirkrit Tiravanija
- Tomas Vu-Daniel

## ASSOCIATE PROFESSORS

- Matthew Buckingham
- Shelly Silver (Chair)

## ASSISTANT PROFESSORS

- Sanford Biggers
- Nicola López

## REQUIREMENTS

### GUIDELINES FOR ALL VISUAL ARTS MAJORS, CONCENTRATORS, AND INTERDEPARTMENTAL MAJORS

A maximum of 12 credits from other degree-granting institutions may be counted toward the major, only with the approval of the director of undergraduate studies.

## MAJOR IN VISUAL ARTS

A total of 35 points are required as follows:

### Visual Arts (32 points)

VIAR R1001 Basic Drawing

VIAR R3330 Sculpture I

Five additional VIAR R3000-level or above courses (15 points)

VIAR R4601 Seminar in Contemporary Art Practice (must be taken during the junior year)

Senior project consists of the following four courses:

VIAR R3901 Senior Thesis I and II and Senior Thesis I and II (4 points)  
 - VIAR R3902

VIAR R3921 Visiting Critic I and II and Visiting Critic I and II (4 points)  
 - VIAR R3922

### Art History (3-4 points)

Select one of the following:

AHIS BC1001 Introduction to Art History I

AHIS BC1002 Introduction to the History of Art II

AHIS W3650 20th Century Art

## Senior Thesis

Before taking the Senior Thesis, majors are advised to complete 18 points of required Visual Arts courses. Senior Thesis consists of four 2-point courses taken over two semesters: VIAR R3901 Senior Thesis I and II-VIAR R3902 Senior Thesis I and II (4 points) and VIAR R3921 Visiting Critic I and II-VIAR R3922 Visiting Critic I and II (4 points) (*Senior Thesis I* and *Visiting Critic I* run concurrently and *Senior Thesis II* and *Visiting Critic II* run concurrently).

Visual arts majors must sign up for a portfolio review to enroll in Senior Thesis. Portfolio reviews are scheduled in April preceding the semester for which students seek entry. Portfolios are evaluated by the director of undergraduate studies and a faculty committee. After each semester of Senior Thesis, a faculty committee evaluates the work and performance completed.

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## MAJOR IN ART HISTORY AND VISUAL ARTS

The requirements for the major are as follows:

### Majors' Colloquium

AHIS W3895 Majors' Colloquium: the Literature and Methods of Art History

### Art History\*

Select one course in three of the following historical periods:

Ancient (up to 400 CE/AD)

400-1400

1400-1700

1700-present

Select two courses from two world regions from the following:

Africa

Asia

Europe, North America, Australia

Latin America

Middle East

### Visual Arts

VIAR R1001 Basic Drawing

VIAR R3330 Sculpture I

Five additional VIAR R3000-level or above courses

\* Up to two of the seven 3-point courses may be replaced by a specifically related course in another department with approval of the adviser.

Students electing the combined major should consult with the director of undergraduate studies, as well as with a faculty adviser in the Art History and Archaeology Department.

It is recommended that students interested in this major begin the requirements in their sophomore year. In the senior year, students undertake either a seminar in the Department of Art History and Archaeology or a Senior Thesis in Visual Arts (pending approval by the Visual Arts Department).

NOTE: Chronological divisions are approximate. In case of ambiguities about course eligibility to fill the requirement, consult the director of undergraduate studies in Art History and Archaeology.

## CONCENTRATION IN VISUAL ARTS

A total of 21 points are required as follows:

### Visual Arts (18 points)

VIAR R1001 Basic Drawing

VIAR R3330 Sculpture I

Four additional VIAR R3000-level or above courses (12 points)

### Art History (3-4 points)

Select one of the following:

AHIS Introduction to Art History I

BC1001

AHIS Introduction to the History of Art II

BC1002

AHIS 20th Century Art

W3650

# WOMEN'S AND GENDER STUDIES

**Program Office:** 763 Schermerhorn Extension;  
212-854-3277; 212-854-7466 (fax)  
<http://irwgs.columbia.edu/>

**Director of Undergraduate Studies:** Prof. Christia Mercer,  
707 Philosophy Hall; 212-854-3190; [cm50@columbia.edu](mailto:cm50@columbia.edu)

Located within the Institute for Research on Women, Gender, and Sexuality and taught in cooperation with Barnard College's Department of Women's Gender and Sexuality Studies, the program in women's, gender, and sexuality studies provides students with a culturally and historically situated, theoretically diverse understanding of feminist scholarship and its contributions to the disciplines. The program introduces students to feminist discourse on the cultural and historical representation of nature, power, and the social construction of difference. It encourages students to engage in the debates that emerge in such discussion, and 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, gender, and sexuality 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 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, gender, and sexuality studies, as well as for careers and future training in law, public policy, social work, community organizing, journalism, and professions in which there is a need for critical and creative interdisciplinary thought.

## REQUIREMENTS 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:

WMST V1001 Introduction to Women's and Gender Studies  
or WMST V3125 Introduction to Sexuality Studies

WMST V3311 Colloquium in Feminist Theory  
WMST V3514 Historical Approaches to Feminist Questions  
WMST V3915 Gender and Power in Transnational Perspective  
WMST V3521 Senior Seminar I

Six approved Elective Courses on women, gender, and/or sexuality in consultation with the director of undergraduate studies.

Electives will be selected in coordination with the director of undergraduate studies to best suit your specific interests and to provide you with the appropriate range of courses, whether your focus is ethnic studies, pre-med, pre-law, sociology, public health, queer studies, visual culture, literature, or another area of interest. While we encourage a broad interdisciplinary approach, we will help you fine-tune your academic program in conjunction with our IRWGS courses, cross-listed courses and other courses offered at Columbia.

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## CONCENTRATION IN WOMEN'S AND GENDER STUDIES

The same requirements as for the major, with the exception of the WMST V3521 Senior Seminar I.

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## SPECIAL CONCENTRATION FOR THOSE MAJORING IN ANOTHER DEPARTMENT

WMST V1001 Introduction to Women's and Gender Studies; plus five additional approved elective courses on gender.



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COLUMBIA UNIVERSITY *in the* CITY of NEW YORK

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