

1989

# Bryn Mawr College Undergraduate College Catalogue and Calendar, 1989-1990

Bryn Mawr College

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The Undergraduate College |  
Catalogue and Calendar | 1989-90



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# Bryn Mawr

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## The Undergraduate College

### Catalogue & Calendar

Issue for the Session of 1989-90  
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*Visitors to the College are welcome and, when the College is in session, student guides are available to show visitors the campus. Appointments for interviews and for campus tours should be made in advance by writing to The Office of Admissions or by telephoning (215) 526-5152. The Office of Admissions is open Monday through Friday from nine until five and, during the fall, on Saturdays from nine until one.*

## **Correspondence**

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General interests of the College

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Regional scholarships and loan fund

# ACADEMIC SCHEDULE 1989-90

## 1989

September 5  
October 13  
October 18  
November 22  
  
November 27  
December 12  
December 13-14  
December 15-22

## First Semester

Classes begin  
Fall vacation begins after last class  
Fall vacation ends at 9 a.m.  
Thanksgiving vacation begins after  
last class  
Thanksgiving vacation ends at 9 a.m.  
Last day of classes  
Review period  
Examination period

## 1990

January 22  
March 9  
March 19  
May 4  
May 5-8  
May 9-18  
May 20

## Second Semester

Classes begin  
Spring vacation begins after last class  
Spring vacation ends at 9 a.m.  
Last day of classes  
Review period  
Examination period  
Commencement

# ACADEMIC SCHEDULE 1990-91

## 1990

September 4  
October 12  
October 17  
November 21  
  
November 26  
December 11  
December 12-13  
December 14-21

## First Semester

Classes begin  
Fall vacation begins after last class  
Fall vacation ends at 9 a.m.  
Thanksgiving vacation begins after  
last class  
Thanksgiving vacation ends at 9 a.m.  
Last day of classes  
Review period  
Examination period

## 1991

January 21  
March 8  
March 18  
May 3  
May 4-7  
May 8-17  
May 19

## Second Semester

Classes begin  
Spring vacation begins after last class  
Spring vacation ends at 9 a.m.  
Last day of classes  
Review period  
Examination period  
Commencement

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- Leslie Rescorla, Ph.D. (Yale University), *Assistant Professor of Human Development*
- Helen Rosen, Ph.D. (Rutgers University), *Assistant Professor of Social Work and Social Research*



- Tawana Sabbath, Ph.D. (Bryn Mawr College), *Assistant Professor of Social Work and Social Research*  
Azade Seyhan, Ph.D. (University of Washington, Seattle),  
*Assistant Professor of German*  
Kevin Wilson, M.S. (University of New Hampshire), *Assistant Professor in Geology*

**LECTURERS**

- Sherri Alper, M.S.S. (Bryn Mawr College), *Lecturer in Social Work and Social Research*  
Erika Rossman Behrend, Ph.D. (University of Pennsylvania),  
*Lecturer in Psychology and Assistant Dean of the Undergraduate College*  
Ava Blitz, M.F.A. (University of Georgia), *Associate Lecturer in Fine Arts*  
Madeline Cantor, M.F.A. (University of Michigan), *Lecturer in the Arts*  
Celia Chazelle, Ph.D. (Yale University) *Andrew W. Mellon Fellow and Lecturer in History of Art*  
David E. Chyba, Ph.D. (Bryn Mawr College) *Lecturer in Physics*  
Anne Dalke, Ph.D. (University of Pennsylvania), *Lecturer in English*  
Vinni Datta, Ph.D. (New York University), *Lecturer in French*, on joint appointment with Haverford College  
Christopher Davis, B.A. (University of Pennsylvania), *Lecturer in the Arts*  
Anna Durbin, J.D. (Yale Law School), *Visiting Lecturer in Social Work and Social Research*  
Helene L. Elting, Ph.D. *Lecturer in English*  
Peter Goldenthal, Ph.D. (University of Connecticut), *Lecturer in Human Development*  
Katherine Gordon-Clark, Ph.D. (Bryn Mawr College), *Lecturer in Human Development*  
Linda Caruso Haviland, M.Ed. (Temple University), *Director of Dance and Associate Lecturer in the Arts*  
Robin W. Kilson, M.A. (Harvard University), *Lecturer in History on the Helen Taft Manning Fund*  
Nancy J. Kirby, M.S.S. (Bryn Mawr College), *Lecturer in Social Work and Social Research and Assistant Dean of the Graduate School of Social Work and Social Research*  
Patricia Kirwin, Ph.D. (Bryn Mawr College), *Lecturer in Social Work and Social Research*  
Theresa J. Ko, M.A. (Seton Hall University), *Lecturer in Chinese*

## Faculty

- Michael L. Lahr, M.A. (University of Pennsylvania), *Lecturer in Growth and Structure of Cities and Economics*
- Michael Lewis, Ph.D. (University of Pennsylvania) *Lecturer in Growth and Structure of Cities and History of Art*
- Mark Lord, M.F.A. (Yale University), *Director of Theater and Lecturer in the Arts*
- Ira S. Mark, Ph.D. (New York University), *Visiting Lecturer in Classical and Near Eastern Archaeology*
- Marcia L. Martin, Ph.D. (Bryn Mawr College), *Lecturer in Social Work and Social Research and Field Instruction Coordinator*
- Ruth W. Mayden, M.S.S. (Bryn Mawr College), *Lecturer in Social Work and Social Research and Dean of the Graduate School of Social Work and Social Research*
- Seravin Mendez-Mendez, Ph.D. (University of Massachusetts), *Post-doctoral Scholar in Residence on the Minority Scholar-in-Residence Program and Lecturer in Political Science and Sociology*
- Joyce D. Miller, J.D. (Harvard University), *Lecturer in Political Science and Social Work and Social Research and Director of Minority Affairs*
- Maribel Molyneaux Ph.D. (University of Pennsylvania), *Lecturer in English*
- Mary J. Osirim, A.M. (Harvard University), *Lecturer in Sociology*
- Jo Ellen Parker, Ph.D. (University of Pennsylvania), *Lecturer in English and Assistant Dean of the Undergraduate College*
- David Rabeeya, Ph.D. (Dropsie College), *Visiting Lecturer in History of Religion*
- Carol Roberts, Ph.D. (Bryn Mawr College) *Lecturer in Human Development*
- Carmen T. Slider, M.F.A. (Temple University), *Technical Director, Designer, and Lecturer in the Arts*
- Karen Tidmarsh, Ph.D. (University of Virginia), *Lecturer in English and Acting Dean of the Undergraduate College*
- Jack Topiol, M.A. (University of Pennsylvania), *Visiting Lecturer in Economics*
- Daniela Holt Voith, M.A. (Yale University), *Lecturer in the Growth and Structure of Cities*
- Jane Wilkinson, Ph.D. (University of California, Berkeley), *Lecturer in the Arts and Director of the Arts Program*
- Kevin M. Wilson, M.S. (University of New Hampshire), *Lecturer in Geology*
- Beatrice Wood, Ph.D. (University of Pennsylvania), *Visiting Lecturer in Human Development*

Jean Y. Wu, Ph.D. (Harvard University), *Lecturer in Human Development and Associate Dean of the Undergraduate College for the Division of Special Studies*

Nancy A. Yoshimura, Ph.D. (University of Pennsylvania),  
*Lecturer in Computer Science*

### INSTRUCTORS

Neil Berch, M.A. (University of Washington), *Instructor in Political Science*, on joint appointment with Haverford College

Christine Borowec, M.A. (Harvard University), *Instructor in Russian*

Emilie A. Cordeiro, M.S. (University of Rio Cuarto, Cordoba Argentina) *Instructor in Spanish*

Roseline Cousin, M.A. (Bryn Mawr College), *Instructor in French*

Florence Echtman, M.A. (Middlebury College), *Instructor in French*

Elizabeth Fisher-Gray, A.M. (Harvard University), *Instructor in History*

Michelle Friedman, B.A. (University of Pennsylvania),  
*Instructor in English*

Raquel Green, M.A. (Bryn Mawr College), *Instructor in Spanish*

Vincent Hausman, B.A. (Villanova University), *Instructor in English*

Peter Kasius, M.A. (Princeton University), *Instructor in Mathematics*

Kristen Lindgren, M.A. (Columbia University), *Instructor in English*

Bill Mullen, B.A. (Occidental College), *Instructor in English*

Mary Louise Nigro, M.S. (Villanova University), *Instructor in Mathematics*

Deepa Ollapally, M.A. (Columbia University), *Instructor in Political Science*

Paula Silver, M.S.W. (Bryn Mawr College), *Instructor in Social Work and Social Research*

Richard Stegman, M.S. (New York University), *Instructor in Computer Science*

Elaine Zickler, M.A. (Rutgers University), *Instructor in English*

### LABORATORY COORDINATORS

Stephen Gardiner, Ph.D. (University of North Carolina),  
*Laboratory Coordinator and Lecturer in Biology*

- Barbara Lorry, Ph.D. (Bryn Mawr College), *Laboratory Coordinator in Human Development*
- Krynn DeArman Lukacs, Ph.D. (University of North Carolina), *Laboratory Coordinator in Chemistry*
- Jeanne Marie Minahan, M.A. (University College, Cork), *Language Lab Coordinator*
- Maryellen Nerz-Stormes, Ph.D. (University of Pennsylvania), *Laboratory Coordinator and Lecturer in Chemistry*
- Mary Scott, A.B. (Smith College), *Laboratory Supervisor in Physics*
- Robert T. Weathersby, B.S. (Wofford College), *Laboratory Coordinator in Psychology*

**DIRECTORS OF THE HAVERFORD-BRYN MAWR  
ORCHESTRAL AND CHORAL PROGRAMS**

- Regina M. Gordon, M.M. (Westminster Choir College),  
*Choral Conductor and Lecturer in Music at Haverford*

**LIBRARIANS**

- James Tanis, Th.D. (University of Utrecht), *Director of Libraries*
- Mary S. Leahy, M.A., M.A. (Bryn Mawr College), *Seymour Adelman Rare Book Librarian*
- Eileen Markson, M.A. (New York University), M.L.S. (Queens College of the City University of New York), *Head, Art and Archaeology Library*
- Jane A. McGarry, M.A. (Villanova University), M.S. in L.S. (Drexel University), *Head, Acquisitions Division*
- Anne N. Pringle, M.S. in L.S. (Drexel University), *Head, Sciences and Psychology Libraries*
- Gertrude Reed, M.L.S. (Rutgers University), *Assistant Director for Public Services*
- Penelope Schwind, M.S. in L.S. (Drexel University), *Assistant Director for Technical Services*
- Scott H. Silverman, M.S. in L.S. (Drexel University), *Head, Cataloging Division*
- Jeremy Blatchley, M.S. in L.S. (Drexel University), *Head, Serials and Gifts Division*
- Leo M. Dolenski, M.A. (Catholic University of America), M.S. in L.S. (Drexel University), *Manuscripts and Archives Librarian*
- John Dooley, M.L.S. (McGill University), *Bibliographer*
- Florence D. Goff, M.A., M.S. in L.S. (Villanova University), *Reference Librarian*



- M. Winslow Lundy, M.A. (Bryn Mawr College), M.S. in L.S. (Drexel University), *Rare Book Cataloger*  
Jeanne B. Mann, M.S. in L.S. (Drexel University), *Cataloging Librarian*  
Andrew M. Patterson, M.L.S. (University of Wisconsin), *Reference Librarian*  
Judith E. Regueiro, M.A. (Bryn Mawr College), M.S. in L.S. (Drexel University), *Reference Librarian*  
Caroline S. Rittenhouse, Ph.D. (Harvard University), *College Archivist*

### **VISUAL RESOURCES**

- Karin Lazarus, M.S.L.S. (University of North Carolina), *Head, Visual Resources*  
Carol Campbell, M.A. (University of Pennsylvania), *Curator and Registrar of the College's Collections*  
Karl A. Dimler, B.F.A. (Philadelphia College of Art), *Photographer*  
Elizabeth Spungen, M.A. (University of Pennsylvania), *Slide and Photograph Librarian*

### **OFFICE OF THE UNDERGRADUATE DEAN**

- Karen Tidmarsh, Ph.D. (University of Virginia), *Acting Dean of the Undergraduate College*  
Erika Rossman Behrend, Ph.D. (University of Pennsylvania), *Assistant Dean*  
Stephen Green, *Coordinator of Transportation*  
Marcia L. Hall, Ph.D. (University of Michigan), *Assistant Dean*  
Charles Heyduk, Ph.D. (Bryn Mawr College), *Director of Student Services*  
Allison Tuttle Noyes, A.B. (Haverford College), *Assistant Director of Student Services and Adviser to International Students*  
Julie E. Painter, A.B. (Bryn Mawr College), *Registrar*  
Jo Ellen Parker, Ph.D. (University of Pennsylvania), *Assistant Dean*  
Sonya Mehta Patel, M.A. (Bryn Mawr College), *Assistant Dean*  
Sandra N. Silverman, M.Ed. (Harvard University), *Assistant Director of Student Services for Residence Life*  
Lisa L. Zernicke, B.B.A. (University of Wisconsin, Milwaukee), *Director of the Campus Center and Summer Conferences*  
Jean Y. Wu, Ph.D. (Harvard University), *Associate Dean of the Undergraduate College for the Division of Special Studies*

**HEALTH SERVICE**

Kay Kerr, M.D. (Medical College of Pennsylvania), *Medical Director*

Jean-Marie P. Barch, Ph.D. (Bryn Mawr College), *Counselor*

Eileen F. Bazelon, M.D. (Medical College of Pennsylvania),  
*Consulting Psychiatrist*

Katherine Donner, M.S.W. (Temple University), *Counselor*

Michelle Fitzgerald, M.S.N. (University of Pennsylvania),  
*Administrative Director of Health Services*

Rosemary Fitzgerald, C.N.M. (University of Pennsylvania),  
*Midwife and Administrator of Gynecological Services*

Deidre Laveran, M.S.W. (Bryn Mawr College), *Counselor and  
Coordinator of Counseling Services*

**PHYSICAL EDUCATION**

Jenepher Shillingford, M.Ed. (Temple University), *Director  
and Lecturer in Physical Education*

Cynthia H. Bell, B.S. (Gettysburg College), *Instructor in  
Physical Education*

Lisa Boyle, B.S. (West Chester State University), *Associate  
Director and Lecturer in Physical Education*

Linda Caruso Haviland, M.Ed. (Temple University), *Director  
of Dance and Associate Instructor of Physical Education*

Barbara Bolich, B.S. (Temple University), *Instructor in Physi-  
cal Education*

Martha McMahan, M.S. (Eastern Illinois University), *Instruc-  
tor in Physical Education*

Raymond Tharan, B.S. (Temple University), *Facilities  
Manager and Instructor in Physical Education*

**CAREER DEVELOPMENT OFFICE**

Liza Jane Bernard, M.Ed. (College of William and Mary),  
*Director*

Matthew Brink, M.S. (Villanova University), *Career Counselor*

Rosemary Knorr, M.Ed. (Marquette University), *Recruiting  
Coordinator*

**BRYN MAWR COLLEGE ADMINISTRATIVE  
OFFICERS**

Jerry A. Berenson, B.A. (Rutgers University), *Assistant Treasurer*

Fred Cuspard, B.A. (Morris Brown College), *Director of House-  
keeping*

- Gail T. Finan, B.S. (Cornell University), *Director of Administrative Services*
- Marilyn Motto Henkelman, M.Ed. (Erikson Institute for Early Education), *Director of the Phoebe Anna Thorne School*
- Margaret E. Holley, Ph.D. (Bryn Mawr College), *Assistant to the President*
- John Kelch, Jr., B.S. (Tufts University), *Director of Physical Plant*
- Phyllis S. Lachs, Ph.D. (Bryn Mawr College), J.D. (University of Pennsylvania), *College Counsel and Director of Personnel*
- Kathrin Platt, *Bookshop Manager*
- Ellen Fernon Reisner, M.A. (Bryn Mawr College), *Assistant to the President and Alumna in Residence*
- Nona C. Smith, B.A. (West Chester University), *Grants Administrator*
- Karen Snyder, B.A. (Rutgers University), *Personnel Manager*
- Suzanne Spain, Ph.D. (New York University), *Assistant Treasurer and Budget Officer*
- Varney Truscott, M.A. (Bryn Mawr College), *Director of Events*
- Paul Vassallo, B.S. (Villanova University), *Director of Purchasing*
- Thomas Warger, Ph.D. (Brown University), *Director of Academic and Administrative Computing*
- Maria Colella Wiemken, M.A. (Bryn Mawr College), *Comptroller*
- Joan Woodcock, A.B. (Wilson College), *Manager of Wyndham*

## **INTRODUCTION**

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Bryn Mawr is a liberal arts college in both the modern and traditional senses. Its curriculum is modern in offering a full range of subjects in the arts, sciences, and social sciences, but the college is also traditional in its commitment to the original medieval sense of the phrase "liberal arts." Then, as now, these were the studies of the free person – "free" not only to undertake such a broad education, without the necessity to specialize, but also free to question or advocate any idea without fear of reprisal. While both of these freedoms come from without, Bryn Mawr believes that such an education ultimately creates an even greater freedom within the individual. This is the freedom that comes from an education that leads one out of the narrowness and prejudices of one's own experience and toward a fuller awareness of oneself and the world.

Bryn Mawr College is convinced that intellectual enrichment and discipline provide a sound foundation for living. It believes in the rights of the individual and regards the college community as a proving ground for the freedom of individuals to think and act as intelligent and responsible members of a democratic society.

### **THE HISTORY OF BRYN MAWR**

Bryn Mawr College was founded in 1885 by Dr. Joseph Taylor, a New Jersey physician and member of the Society of Friends who decided to found a college for the education of young Quaker women. He chose the site and supervised the building of Taylor Hall, but his trustees by 1893 broadened Taylor's mission by deciding that Bryn Mawr would be non-denominational, although committed to the belief in freedom of conscience. When Bryn Mawr opened, it offered the A.B., M.A., and Ph.D. degrees and was thus the first women's college in the country to develop graduate instruction leading to the doctorate for women. It remains today the only predominantly women's college with extensive graduate programs.

The first president of Bryn Mawr was James E. Rhoads (1885-1894), another physician and one of the early planners of the College. It was M. Carey Thomas, the first dean and second president (1894-1922), however, who gave Bryn Mawr its special identity as a college determined to prove that



women could successfully complete a curriculum as rigorous as any offered in the best universities to men. When she was only thirteen she wrote in her diary, "How unjust—how narrow-minded—how utterly incomprehensible to deny that women ought to be educated and worse than all to deny that they have equal powers of mind"; her life may be seen as a concentrated experiment to prove that it was not so.

Miss Thomas was succeeded by Marion Edwards Park (1922-1942), a distinguished classicist. When she became president the battle for recognition of women's ability to learn was essentially won, but it fell to President Park to provide a system for democratic governance in the wake of her charismatic but autocratic predecessor. It was President Park who guided the College through the depression without loss of standards or integrity.

From 1942 to 1970 Katharine Elizabeth McBride, a noted child psychologist and administrator, presided over the College in a time of great change and tremendous growth. The size of the student body began to increase from 500 in 1940 to 750 in 1970 and, although Bryn Mawr had never had quotas and always offered scholarships, after World War II the student body represented greater social, ethnic, and economic diversity. During the presidency of Harris L. Wofford (1970-1978), our commitments to academic cooperation with Haverford and to international education were strengthened, and large numbers of men and foreign students added still greater diversity and interest to campus life. The sixth President is Mary Patterson McPherson (1978- ), a philosopher who is an outspoken champion of equal access to education and equal rights for women.

## THE COLLEGE AS COMMUNITY

Believing that a small college provides the most favorable opportunity for the students to participate in their own education, Bryn Mawr limits the number of undergraduates. And since diversity in background and training serves not only to stimulate discussion but also to develop an intelligent understanding of such diversity, the undergraduate enrollment and curriculum are dedicated to a respect for and understanding of cultural and social diversity. The student body is composed of individuals from all parts of the United States as well as many foreign countries; from all sectors of American society, with a special concern for the inclusion of historically disadvantaged minorities.

The resources of Bryn Mawr as a small residential college are augmented by its participation at the undergraduate level with Haverford College, Swarthmore College, and the University of Pennsylvania in an arrangement which coordinates the facilities of the four institutions while preserving the individual qualities and autonomy of each. Students may take courses at the other colleges, with credit and without additional fees. Bryn Mawr also has a limited exchange program with Villanova University. Students at Bryn Mawr and Haverford may also major at one or the other college.

The cooperative relationship between Bryn Mawr and Haverford is particularly close since the colleges are only about a mile apart and naturally extends beyond the classroom. Collections in the two libraries are crosslisted, and students may study in either library. Student organizations on the two campuses work closely together in matters concerned with student government and in a whole range of activities. Cooperation in living arrangements was initiated in 1969-70, and several residence halls on the two campuses are assigned to students of both colleges.

Bryn Mawr itself sponsors a broad cultural program which supplements the curriculum and enriches its community life. Various lectureships bring scholars and other leaders in world affairs to the campus not only for public lectures but also for classes and conferences with the students. Such opportunities are provided by the Mary Flexner Lectures in the humanities and by the Anna Howard Shaw Lectures in the social sciences, the visiting professors on the Katharine E. McBride Fund for faculty appointments, and by various individual lecturers in many of the departments of the College. The Arts Program at Bryn Mawr supports and coordinates the arts curriculum and a variety of extra-curricular activities in creative writing, dance, fine arts, music, and theater. A regular schedule of concerts and productions directed by the arts faculty at Bryn Mawr and Haverford Colleges, together with performances by The Theater Company, Dance Club, and other student-run groups, are augmented and enhanced by readings, exhibitions, performances, and workshops given by visiting artists.

Student organizations have complete responsibility for the many aspects of student activity, and student representatives join with members of the faculty and administration in making and carrying out plans for the College community as a whole. The Student Self-Government Association, to which every student belongs, provides a framework in which indi-

viduals and smaller groups function. The association both legislates and mediates in matters of social and personal conduct. Through their Self-Government Association, the students share with the faculty the responsibility for the administration of the Academic Honor System. One of the most active branches of the Self-Government Association is the Student Curriculum Committee, which, with the Faculty Curriculum Committee, originally worked out the College's system of self-scheduled examinations. The joint Student-Faculty Committee meets regularly to discuss curricular issues and to approve new courses and programs. The Self-Government Association also coordinates the activities of many special interest clubs, open to all students; it serves as the liaison between students and College officers, faculty, and alumnae. The Athletic Association also provides opportunity for all kinds of activities, including intramural and varsity contests. Both the Bryn Mawr and Haverford College and the Bryn Mawr College newspapers welcome the participation of students interested in reporting and editing.

Students participate actively on many of the most important academic and administrative committees of the College. In addition to the Curriculum Committee, undergraduates elect three rising seniors to serve with members of the faculty on the College Admissions Committee. Along with alumnae and faculty three students participate in the policy discussions of the Undergraduate Scholarship Committee. Two undergraduates meet with the Board of Trustees, present regular reports to the full board, and work with the board's committees. Two undergraduates are also elected to attend meetings of the faculty. At the meetings of both the board and the faculty, student members may join in discussion but do not vote.

The International Students Association, representing more than 140 undergraduate and graduate students at the College from more than fifty different countries, enriches the life of Bryn Mawr through social and cultural events. The Sisterhood works to address the concerns of black students, to foster their equal participation in all aspects of College life, and to support Perry House, the black cultural center, which sponsors cultural programs open to the College community and provides residence space for a few students. Other student organizations, such as the Asian Students Association and the Hispanic Students Association, provide forums for the members to address their common concerns and a basis from which they participate in other activities of the College, making many unique and valuable contributions. An active



Women's Center has been working for several years with the Faculty Committee on Feminism and Gender Studies on the establishment of appropriate courses on women and on lectures and other extra-curricular programs focused on women and feminism.

The Minority Coalition, an organization representing all of the minority student organizations, enables minority students to work together in developing a coordinated plan to increase the number of minority students and faculty and to develop curricular offerings and extra-curricular programs dealing with United States minority groups and with non-western peoples and cultures.

Students who wish to volunteer their services outside the College find many opportunities to do so through the Eighth Dimension program coordinated by Mary Louise Allen at Haverford College. One such opportunity is Kid's Connection, a tutoring service for inner-city children developed and run by Bryn Mawr students.

Through their interest and participation in these many aspects of the College community the students exemplify the concern of Bryn Mawr's founders for intellectual development in a context of social commitment.

## **ADMISSION**

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Bryn Mawr College is interested in candidates of character and ability who want a liberal arts education and are prepared for college work by a sound education in school. The College has found highly successful candidates among students of varied interests and talents from a wide range of schools and regions in the United States and abroad.

In its consideration of candidates the College looks for evidence of ability in the student's high school record, her rank in class, and her College Board tests; it asks her high school adviser and several teachers for an estimate of her character, maturity, and readiness for college.

### **PROGRAM OF SECONDARY SCHOOL STUDIES**

Candidates are expected to complete a four-year secondary school course. The program of studies providing the best background for college work includes English, languages, and

mathematics carried through most of the school years and, in addition, history and a laboratory science. A school program giving good preparation for study at Bryn Mawr would be as follows: English grammar, composition, and literature through four years; at least three years of mathematics, with emphasis on basic algebraic, geometric, and trigonometric concepts and deductive reasoning; three years of one modern or ancient language, or a good foundation in two languages; some work in history; and at least one course in a laboratory science, preferably biology, chemistry, or physics. Elective subjects might be offered in, for example, art, music, or computing to make up the total of sixteen or more credits recommended for admission to the College.

Since school curricula vary widely, the College is fully aware that many applicants for admission will offer programs that differ from the one described above. The College is glad to consider such applications provided students maintained good records and continuity in the study of basic subjects.

## FRESHMAN CLASS

Application to the freshman class may be made through one of three plans: Regular Admission, Fall Early Decision, or Winter Early Decision. Applicants follow the same procedures, submit the same supporting materials, and are evaluated by the same criteria under each plan.

The Regular Admission plan is designed for those candidates who wish to keep open several different options for their undergraduate education throughout the admissions process. Applications under this plan are accepted anytime before the January 15 deadline.

The two Early Decision plans are designed for candidates who have thoroughly and thoughtfully investigated Bryn Mawr and other colleges and found Bryn Mawr to be their unequivocal first choice. The Winter Early Decision plan differs from the Fall Early Decision plan only in recognizing that some candidates may arrive at a final choice of college later than others. Early Decision candidates under either plan may file regular applications at other colleges with the understanding that these applications will be withdrawn upon admission to Bryn Mawr; however, one benefit of the Early Decision plans is the reduction of cost, effort, and anxiety inherent in multiple application procedures. Early Decision candidates who are applying for financial aid will receive a financial aid decision at the same time as the decision about

admission. Any Early Decision candidate who is not admitted through either fall or winter plans and whose application is deferred to the Regular Admission plan will be reconsidered without prejudice along with the regular admission candidates in the spring.

Timetables for the three plans are:

**Fall Early Decision**

Closing date for applications and all supporting material	November 15
Notification of candidates	by December 15

**Winter Early Decision**

Closing date for applications and all supporting materials	January 1
Notification of candidates	by January 31

**Regular Admission**

Closing date for applications and all supporting materials	January 15
Notification of candidates	by mid-April

Application forms may be obtained from the Director of Admissions, Bryn Mawr College, Bryn Mawr, Pennsylvania 19010-2899. A fee of \$40 must accompany each application and is not refundable.

**ENTRANCE TESTS**

The Scholastic Aptitude Test and three Achievement Tests of the College Entrance Examination Board are required of all candidates and should be taken as early as possible. If possible, achievement tests should be taken in current subjects. Students should offer three of the one-hour tests: one in English and two others. The College recommends but does not require that one of the three tests be taken in a foreign language, since a score of 650 or above satisfies part of an A.B. degree requirement (see page 59 for details on language exemption). No special preparation, other than work well done in a good school, is required for successful performance on these tests.

Candidates are responsible for registering with the College Entrance Examination Board for the tests. Information about the tests, test centers, fees, and dates may be obtained

by writing to College Board, P.O. Box 592, Princeton, New Jersey 08540.

### **INTERVIEWS**

All candidates are expected to have an interview, by February 1, either at the College or with an alumna area representative. Appointments for interviews and campus tours should be made in advance by writing or telephoning the Office of Admissions (215-526-5152). The Office of Admissions is open from nine to five on weekdays and from September to January on Saturdays from nine to one. A student who is unable to visit the College may write to the director of admissions for the name and address of an alumna representative in her area.

### **EARLY ADMISSION**

Each year a few outstanding students enter the College after the junior year of high school. Students who wish to apply for Early Admission should plan to complete a senior English course before entrance to college and should write to the director of admissions about application procedures.

### **DEFERRED ENTRANCE**

A student admitted to the College may defer entrance to the freshman class for one year provided that she writes to the director of admissions requesting deferred entrance by May 1, the Candidates' Reply Date.

### **ADVANCED PLACEMENT AND CREDIT**

Students who have carried advanced work in school and who have honor grades (5 in English and History, 4 and 5 in other subjects) on the Advanced Placement Tests of the College Board may, after consultation with the dean and the departments concerned, be admitted to one or more advanced courses in the freshman year. Bryn Mawr accepts advanced placement tests with honor grades in the relevant subjects as exempting the student from college requirements for the A.B. degree. With the approval of the dean and the departments



concerned, one or more advanced placement tests with honor grades may be presented for credit. Students who enter with three or more advanced placement tests passed with honor grades may apply for advanced standing. The advanced placement tests are given at College Board centers in May.

Students who present the full International Baccalaureate with a score of 30 or better normally receive one year's credit; those who present a partial I.B. or who receive a score below 30 may receive subject credit for excellent work on the higher level examinations. Students who present A levels may be given two units of credit for each subject. Up to a year's credit is often given for the French Baccalaureate, the German Abitur, and for similar degrees, depending upon the quality of the examination results. Students may also consult the dean or the director of admissions about the advisability of taking placement tests given by the College during Customs, Bryn Mawr's freshmen orientation.

## TRANSFER STUDENTS

Each year a few students are admitted on transfer to the sophomore and junior classes. Successful transfer candidates have done excellent work at other colleges and universities and present strong high school records which compare favorably with those entering Bryn Mawr as freshmen. Students who have failed to meet the prescribed standards of academic work or who have been put on probation, suspended, or excluded from other colleges and universities will under no circumstances be admitted.

Transfer candidates should file applications as early as possible and by March 15 for entrance in September, or by November 1 for the second semester of the year of entrance. Application forms and instructions may be requested from the director of admissions.

Transfer candidates are asked to submit official test reports from the College Board of the Scholastic Aptitude and Achievement Tests taken in high school. Those who have not previously taken these tests are required to take only the Scholastic Aptitude Test. Test registration information may be obtained from the College Board, Box 592, Princeton, New Jersey 08540.

To qualify for the A.B. degree, students must have completed a minimum of three years of full-time study at Bryn Mawr. Exceptions to this requirement for transfer students



seeking admission to the junior year are considered at the time of entrance. Transfer credits will be evaluated at entrance; credit toward the Bryn Mawr degree is awarded after the student has successfully completed a semester's work at the College.

Candidates for transfer are notified of the action taken on their applications by early June or, for the second semester, in December.

## **INTERNATIONAL STUDENTS**

Bryn Mawr welcomes applications from foreign citizens who have outstanding secondary school records and who meet university entrance requirements in their native countries.

Application forms and instructions are available from the director of admissions. Applications from international students should be filed early in the year preceding entrance and must be completed by January 15. The application fee may be waived upon request.

International student applicants are asked to take the Scholastic Aptitude Test of the College Board. Achievement tests are recommended but not required. Test registration information may be obtained from the College Board, ATP, Post Office Box 6200, Princeton, New Jersey 08541-6200, U.S.A.. Registration arrangements for students taking the tests abroad should be made at least two months prior to the scheduled testing date.

International student applicants whose native language is not English must present credentials attesting to their proficiency in English. The Test of English as a Foreign Language (TOEFL) is required for all non-native speakers of English unless they have studied in an institution in which English is the sole medium of instruction. TOEFL registration information can be obtained by writing to TOEFL, Post Office Box 6151, Princeton, New Jersey 08541-6151, U.S.A.

## **COMBINED BACHELOR OF ARTS AND MASTER OF ARTS DEGREE**

Bryn Mawr students who are exceptionally qualified, while undergraduates, may undertake graduate work leading to the degree of Master of Arts. Such students should file individual plans of study at the end of the sophomore year for approval

by the department chairman, the dean of the Undergraduate College, the Undergraduate Curriculum Committee, the dean of the Graduate School of Arts and Sciences, and the Graduate Council.

## **WITHDRAWAL AND READMISSION**

A student who has withdrawn from the College is not automatically readmitted. She must request readmission and should consult her dean and the director of admissions concerning the procedure to be followed. Evidence of the student's ability to resume work at Bryn Mawr may be requested. Applications for readmission are reviewed twice during the year, in late February and in June. Students who file an application by February 1 are notified of the committee's decision in early March and may then enter the room draw by proxy. Those who file by June 1 are notified late in June.

## **ADMISSION TO THE DIVISION OF SPECIAL STUDIES**

The Division of Special Studies coordinates the activities of non-matriculated students in the College. All applicants to the programs listed below are subject to a rigorous selection procedure. Information, application forms, and instructions for applying to the following programs may be requested from the Director of the Division of Special Studies, Taylor Annex, Bryn Mawr College, Bryn Mawr, Pennsylvania 19010-2899.

### **Special Students**

Highly qualified men and women and gifted high school students who do not wish to undertake a full college program leading to a degree may apply for admission as special students to take courses on a fee basis prorated according to the tuition of the Undergraduate College, space and resources permitting. Men and women 60 years of age and older qualify to take courses at one-half the special student tuition.

### **Katharine E. McBride Scholars Program**

Women beyond the usual college entry age who wish to earn an undergraduate degree at Bryn Mawr College may apply for admission to the Katharine E. McBride Scholars Program. The program admits women who have demonstrated talent, intelligence, and capacity for accomplishment in areas includ-

ing job, community, and home. Upon satisfactory completion of a structured sequence of courses, a McBride scholar may apply to be admitted to the undergraduate college. Admission is conducted on a rolling basis. Admission to the undergraduate college depends significantly on the student's performance in courses taken at Bryn Mawr. Once admitted to the undergraduate college, McBride scholars are subject to the residency rule, which requires that a student take a minimum of twenty-four course units while enrolled in the undergraduate college. McBride scholars may continue their study on a part-time basis after admission to the undergraduate college. In general Katharine E. McBride scholars begin their work in Semester I. In unusual circumstances, Semester II entrance is considered.

#### **Post-Baccalaureate Premedical Program**

Men and women who hold degrees but need additional undergraduate training before making initial application to schools of medicine, dentistry, and veterinary medicine may apply as post-baccalaureate students. The program stresses intensive work in the sciences. It is designed primarily for students who are changing fields and is not a remedial program. Applications are considered for the fall or summer sessions only. All forms and supporting credentials should be submitted as early as possible because enrollment is limited. Applications are considered as they are received, and decisions are made on a rolling admissions basis.

#### **Five-Year Post-Baccalaureate/M.D. Programs**

Students applying for the Post-Baccalaureate Premedical Program may elect to apply at the same time for provisional acceptance into one of five schools of medicine: Brown University Program in Medicine, Dartmouth Medical School, Hahnemann University School of Medicine, the Medical College of Pennsylvania, and the University of Rochester School of Medicine. Students provisionally accepted by one of these five schools are admitted to the first year of medical school following satisfactory completion of the post-baccalaureate course of study.

#### **Five-Year Post-Baccalaureate/D.M.D. Program**

Pre-dental students applying for the Post-Baccalaureate Program may elect to apply at the same time for provisional acceptance into the University of Pennsylvania School of Dental Medicine. If accepted by both Bryn Mawr and the University of Pennsylvania, the student is eligible to begin

dental studies immediately following successful completion of the post-baccalaureate course of study.

### **School Psychology Certification Program**

This program is designed to enable professionals in the fields of education and mental health to obtain the training requisite for Pennsylvania State certification as a school psychologist. Students who have a Master's degree in a field related to School Psychology, such as counseling, social work, learning disabilities, psychology of reading, or special education, are eligible to apply. If accepted to the School Psychology Certification Program, students generally use previous Master's coursework to fulfill some of the program's competency requirements. Students may attend on a part-time basis.

### **Summer Courses**

During Summer Sessions I and II, qualified women and men, including high school students, may take courses in science, mathematics, or languages. Also offered is intensive Russian language study at both the elementary and intermediate levels, as well as an Immersion Program in Russian at five levels. Students may fulfill undergraduate requirements or prepare for graduate study. The current summer session calendar should be consulted for dates for each course. Each course carries full academic credit (four semester hours for each course in each session). Academic and premedical advising is available throughout the Summer Sessions.

### **Alumnae/i**

Under certain circumstances, Bryn Mawr alumnae/i who have received one or more degrees from Bryn Mawr College (A.B., M.A., M.S.S., M.L.S.P., Ph.D.) are entitled to take courses in the Undergraduate College at one-half the normal tuition. Admission to all courses must follow approved admissions procedures. Courses are open on a space-available basis.

## **FEES**

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### **TUITION**

The tuition fee in 1989-90 for all undergraduate students, resident and non-resident, is \$13,200 a year.



**Summary of Fees and Expenses for 1989-90**

Tuition .....	\$13,200
Residence .....	5,100

**Other Fees**

Laboratory fee (per lab per semester) .....	\$ 35
Self-Government Association fee .....	(approximately) 120

**PROCEDURES FOR SECURING A REFUND**

Written notice of intention to withdraw must be submitted to the student's dean. The date on which written notice is received (or the date on which the student signs a notice of withdrawal) is the official date of withdrawal. All students receiving financial aid must consult with the director of financial aid, including students who have received federally insured loans, such as loans guaranteed by state agencies (GSLP) and by the federal government (Perkins) to meet educational expenses for the current academic year. The amount of the refund is determined according to the schedule below:

*Semester I*

Before September 19, 1989 .....	100%
September 19, 1989 through October 2, 1989 .....	50%
After October 2, 1989 .....	no refund

*Semester II*

Before February 5, 1990 .....	100%
February 5, 1990 through February 18, 1990 .....	50%
After February 18, 1990.....	no refund

**SCHEDULE OF PAYMENTS**

By registering for courses, students accept responsibility for the charges of the entire academic year, regardless of the method of payment. The College bills for each semester separately. The bill for the fall semester is sent in late June and is payable in mid-August. The bill for the spring semester is sent in early December and is payable in early January. A late fee is assessed for all accounts more than thirty days past due.



As a convenience to parents and students, the College currently offers a payment plan administered by an outside organization which enables monthly payment of all or part of annual fees in installments without interest charges. Payments for the plan commences *prior* to the beginning of the academic year. Information about the payment plan is available from the Comptroller's Office.

No student is permitted to attend classes or enter residence until payment of the College charges has been made each semester. No student may register at the beginning of a semester, graduate, receive a transcript, or participate in room draw until all accounts are paid, including a single yearly activities fee collected by the student Self-Government Association (SGA) officers. This fee covers class and hall dues and support for student organizations such as *The News* and student clubs. All resident students are required to participate in the College food plan.

Faced with rising costs affecting all parts of higher education, the College has had to raise tuition each of the last several years and further increases may be expected.

## RESIDENCE

Students are permitted to reserve a room during the spring semester for the succeeding academic year, prior to payment of room and board fees, if they intend to be in residence during that year. Those students who have reserved a room but decide later to withdraw from the College or take a leave of absence are charged a fee of \$100. This charge is billed to the student's account.

## GENERAL DEPOSIT

All entering students are required to make a deposit of \$200. This deposit remains with the College while the student is enrolled as an undergraduate. After one year of attendance, the deposit will be returned sixty days after graduation or withdrawal from the College. However, any unpaid bills and any expenses incurred as a result of destruction or negligence on the part of the student are applied against the deposit.

The average cost of educating each undergraduate is more than \$20,975 a year. The difference over and above tuition must be met from private gifts and income from endowment. Contributions from parents able and willing to pay an addi-

tional sum are most welcome to help meet the expenses of instruction.

## FINANCIAL AID AND SCHOLARSHIPS

The education of all students is subsidized by the College because their tuition and fees cover only part of the costs of instruction. To those students well qualified for education in liberal arts and sciences but unable to meet the college fees, Bryn Mawr is able to offer further financial aid. Alumnae and friends of the College have built up endowments for scholarships; annual gifts from alumnae and alumnae clubs and from industrial and professional groups add to the amounts available each year. It is now possible to provide at least partial aid for more than forty percent of the undergraduate students in the College. The value of the scholarships ranges widely, but the average grant in 1988-89 was approximately \$7,500.

Initial requests for financial aid are reviewed by the Financial Aid Office and are judged on the basis of the student and her family's financial situation. Financial aid awarded at entrance is renewable throughout the student's four years at the College, assuming satisfactory progress towards the degree and continued financial aid eligibility. Application for renewal must be made annually. Bryn Mawr College, as a member of the College Scholarship Service of the College Entrance Examination Board, subscribes to the principle that the amount of aid granted a student should be based upon financial need. The service assists colleges and other agencies in determining the student's need for financial assistance. All applicants must submit the Financial Aid Form (FAF) in support of application for financial aid. When the total amount of aid needed has been determined, awards are made in the form of grants, loans, and jobs.

Bryn Mawr College administers two kinds of loan programs. The first consists of funds established through the generosity of alumnae and friends of the College, and the second is based on government funds made available through the Perkins Loan program. Full descriptions can be found on page 330.

Bryn Mawr participates in the Federal College Work-Study Program established by the Economic Opportunity Act of 1964. This program provides funds for campus jobs for students who meet the federal eligibility requirements. Students interested in this program should consult the director of financial aid.

Bryn Mawr's financial aid policies are described in greater detail in a brochure which is available upon request from the Financial Aid Office.

### **APPLICATIONS FOR FINANCIAL AID AT ENTRANCE**

Application forms for financial aid are included in materials sent to applicants who have submitted the preliminary application for admissions. Each candidate for aid must also file the Financial Aid Form with the College Scholarship Service. These forms must be filed with the College and with the College Scholarship Service no later than January 15 of the student's final year in high school. Early Decision Plan applicants must submit the Bryn Mawr College Early Decision Financial Aid Application by November 15 of their final year in high school for the Fall Plan and January 1 for the Winter Plan. This form is submitted directly to the Financial Aid Officer. Applications for financial aid for transfer students are due no later than March 1.

As the cost of tuition continues to increase, the number of applicants requiring financial assistance also increases. The funds available for award, however, are not growing at the same rate and the competition for financial aid funds therefore increases. Each year the College is in the position of admitting some academically qualified applicants who need financial assistance but to whom no aid can be granted.

Since scholarship funds of the College are not sufficient to cover the needs of the many well-qualified applicants, students are urged to consult with their school counselors about national and local scholarships which may be available and to submit appropriate applications for them. Specific questions regarding aid at Bryn Mawr should be directed to the director of financial aid.

### **RENEWAL OF UNDERGRADUATE FINANCIAL AID**

Application for the renewal of financial aid must be made annually. The renewal of the award depends on the student's maintaining satisfactory progress towards the degree and on her continued need for assistance. Adjustments can be made each year to reflect the changes in the financial situation of the family.

The necessary forms for renewal may be obtained in the Financial Aid Office and should be filed with the College



Scholarship Service no later than March 15.

For a list of scholarship funds and prizes see page 299; for a list of loan funds see page 330.

## ACADEMIC AND RESIDENTIAL FACILITIES

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### LIBRARIES

The Mariam Coffin Canaday Library was officially opened in April 1970. The collections for the humanities and social sciences are largely in the Canaday Library, except for art and archaeology in the M. Carey Thomas Library and psychology in Dalton Hall. In addition, there are libraries for the sciences and mathematics in the Science Center. The collections of Haverford and Swarthmore College Libraries, which complement and augment those of Bryn Mawr, are equally accessible to students.

Bryn Mawr's libraries operate on the open-stack system, allowing students free access to the collections, which comprise approximately 850,000 books, documents, and microforms. Students are urged to familiarize themselves with the various aids provided for study and research. A series of pamphlets on library use is available for handy reference, and the librarians may be consulted for further assistance. Research services provided by the reference staff include on-line bibliographic searching, as well as access to extensive research materials in both traditional and electronic formats.

The John D. Gordan Reference Center provides a focus for reference books and services in the library. In its card catalogue, the main entry cards of the Haverford College Library join those of the Bryn Mawr Library. The Bryn Mawr, Haverford, and Swarthmore College Libraries are implementing an integrated on-line library information system which will contain complete bibliographic and circulation data for the holdings of the three colleges.

The library is a member of the Pennsylvania Area Library Network/Union Library Catalogue of Pennsylvania (PALINET/ULC), which locates approximately 7,200,000 volumes in the Philadelphia area and throughout the state, including the libraries of the American Philosophical Society, the Library Company of Philadelphia, the Historical Society

of Pennsylvania, the Academy of Natural Sciences, the Free Library of Philadelphia, the College of Physicians, the Rosenbach Foundation, the University of Pennsylvania, and Temple University. In addition, through PALINET, the library has access to the OCLC data bank of more than seventeen million titles catalogued for academic and other libraries throughout the United States. Materials not owned by Bryn Mawr are available through interlibrary loan. Students wishing to use another library should secure a letter of introduction from the circulation desk.

In addition to the books, periodicals, and microfilms basic to a college library, the Canaday Library offers students a small but distinguished collection of research materials among its rare books and manuscripts. The Marjorie Walter Goodhart Medieval Library, for example, provides the basic texts for probing the mind of the late Middle Ages and the thought of the emerging Renaissance. These treasures are supplemented by a growing collection of sixteenth-century texts. Another noteworthy resource is the Louise Bulkley Dillingham Collection of Latin American books, which range from sixteenth-century exploration and settlement to contemporary Latin American life and culture. It has recently been augmented by the Monegal library of twentieth-century Latin American literature. Important and extensive collections of early material on Africa and Asia are to be found in the McBride and Plass collections. The Castle and Adelman collections expand the opportunities for the study of the graphic arts in books. In addition to these special collections the library has numerous rare books and manuscripts.

The M. Carey Thomas Library houses the books and other study materials of the Departments of Classical and Near Eastern Archaeology and History of Art and the Division of Visual Resources. Also in Thomas is the Quita Woodward Memorial Room for recreational reading, with recent books on literature, art, religion, and current affairs, as well as many classics.

## ARCHAEOLOGY COLLECTIONS

The Ella Riegel Museum of Classical Archaeology, housed on the third floor of the M. Carey Thomas Library, West Wing, contains a small study collection of Greek and Roman minor arts, especially vases, and a selection of preclassical antiquities. The museum was formed from private donations such as the Densmore Curtis Collection presented by Clarissa Dry-



den, the Elisabeth Washburn King Collection of classical Greek coins, and the Aline Abaecherli Boyce Collection of Roman Republican silver coins. The late Professor Hetty Goldman gave the Ella Riegel Museum an extensive series of pottery samples from the excavations at Tarsus in Cilicia. The collections are used for small research projects by undergraduate and graduate students.

## **ANTHROPOLOGICAL COLLECTIONS AND LABORATORIES**

Bryn Mawr houses several large collections of New World artifacts, including the W. S. Vaux Collection of archaeological and ethnological materials. This important collection, made during the last half of the nineteenth century, has as its main emphasis the artistic works of New World Indians. The Anne and George Vaux Collection represents a wide selection of American Indian basketry from the Southwest, California, and the Pacific Northwest. The extensive Ward Canaday Collection contains outstanding examples of most of the ceramic and textile traditions for which Peru is known. Other comprehensive collections, given by faculty and friends of the College, represent the Old World Paleolithic and Neolithic, Paleo-Indian, Eastern Woodland, Southwestern, Middle Mississippian, and Mexican antiquities. These collections have been enlarged by osteological materials and casts of fossil hominids. There is also a small but growing collection of ethnomusical recordings, representing the music of native peoples in all parts of the world. The anthropology laboratories are used by undergraduate and graduate students.

## **LABORATORIES**

The teaching and research in the sciences and mathematics takes place in laboratories and classrooms at three separate locations on the campus. Work in biology, chemistry, geology, mathematics, and physics is carried out in the Science Center, which is an interconnected complex consisting of Park Hall, the Biology Building, and the Physical Sciences Building, and work in computer science and psychology is carried out in the Computing Center in Eugenia Chase Guild Hall and Dalton Hall, respectively.

In the sciences, laboratory work is emphasized at all levels of the curriculum. The science departments have

excellent facilities for laboratory teaching; in addition, they are particularly well equipped for research because they serve the educational needs of students working toward M.A. and Ph.D. degrees as well as students working toward the A.B. degree. As a consequence, not only are advanced undergraduates provided with opportunities to carry out research with sophisticated modern equipment, but they are also able to do so with the intellectual companionship of graduate students as well as faculty members. Among the major laboratory instruments available at the College are: a transmission electron microscope, a Zeiss universal microscope with Nomarski optics, an amino acid analyzer, a 300-MHz nuclear magnetic resonance (nmr) spectrometer, additional pulsed nmr equipment for studies of solids, a mass spectrometer, equipment for X-ray diffraction, a wide variety of lasers, and instruments for various kinds of spectroscopy, including infrared, Raman, visible, ultraviolet, fluorescence, and atomic absorption. In addition, custom-designed equipment for special research projects is fabricated by a staff of two expert instrument makers and a glass blower in the College's instrument shop in the Science Center.

Because laboratory work in geology is based on observations in the field, the department conducts field trips in most of its courses and also has additional trips of general interest. To aid in the study of observations and samples brought back from the field, the department has excellent petrographic and analytical facilities, extensive reference and working mineral collections, including the George Vaux, Jr. Collection and the Theodore D. Rand Collection of approximately 10,000 specimens each, and a fine fossil collection. On deposit from the United States Geological Survey and the Defense Mapping Agency are 40,000 maps.

### **THE EUGENIA CHASE GUILD COMPUTER CENTER**

The Computer Center, located in Eugenia Chase Guild Hall, houses computer and data communications systems, classrooms, offices, and student work stations. Access to these facilities and training in their use are available to all students without charge. Some form of computing is done in every discipline represented in the College's curriculum. Among the most common activities are statistical analysis, programming, word processing, and electronic mail. Computers are also used in laboratories in the natural and social sciences and in the language laboratory.

Bryn Mawr's computing equipment includes a DEC VAX 8200 and a Microvax II, both of which run the VMS operating system; a Hewlett Packard 9000, running HP-UX (UNIX); and over 100 microcomputers including Apple Macintosh, IBM PC XT and AT, and AT&T 6300. Software includes the Pascal, FORTRAN, and C programming languages, applications packages such as SPSS (Statistical Package for the Social Sciences), IMSL (International Mathematical and Statistical Library), DBASE, Lotus, and Minitab. The center's microcomputers feature wordprocessing and other personal productivity software.

Over 100 computer connections are distributed across the campus and are linked to the center through an AT&T ISN data communications network. A direct data connection to Haverford College's VAX computers is available through a DECnet link. Wide area network connections are provided through BITNET, a network for mail, file, and interactive message transmission among more than 300 academic institutions in the United States and around the world.

#### **THE SOCIAL SCIENCE DATA LABORATORY AND LIBRARY**

The Department of Sociology maintains the Social Science Statistical Laboratory, which consists of a terminal cluster and printer staffed by undergraduate user consultants. A data library of machine-readable data files is available for student and faculty research and instructional use. Data library resources include election and census studies, political and attitudinal polling data, historical materials on the City of Philadelphia, national and cross-national economic statistics, ethnographic data files for cross-cultural study, and a collection of materials relevant to the study of women. Access to other data is available through the College's membership in the Inter-University Consortium for Political and Social Research.

#### **THE LANGUAGE LEARNING CENTER**

The modern language departments jointly maintain the Language Learning Center. This modern facility, housed in Denbigh Hall, offers students the latest audio, video, and computer technology for learning languages. The center

includes twenty-two positions with Sony ER-5030 student cassette tape recorders with a "one phrase repeat" function that automatically rewinds to the last pause between phrases. The state of the art interactive audio laboratory allows for independent or group study. The teacher's console enables the teacher to play one tape to an entire class, speak to them in groups or individually, and record their responses. Computers and video stations are used to support a comprehensive approach to language acquisition. A newly installed satellite down-link provides access to international television broadcasts.

### FACILITIES FOR THE ARTS

Goodhart Hall is the College's main performance space for theater and dance and houses the Office for the Arts. The College has two dance studios, one over Pembroke Arch, the other in the gymnasium. While Thomas Library Great Hall provides a large space for concerts, the Goodhart Music Room is used for ensemble rehearsals and intimate chamber music recitals. Students may reserve time in the five practice rooms in Goodhart, all of which are furnished with grand pianos. Arnecliffe Studio houses the program in painting and print-making and there is an additional drawing studio in Rockefeller Hall.

### HALLS OF RESIDENCE

Halls of residence on campus provide full living accommodations. Brecon, Denbigh, Merion, Pembroke East, Pembroke West, and Radnor Halls are named for counties in Wales, recalling the tradition of the early Welsh settlers of the area in which Bryn Mawr is situated. Rockefeller Hall is named for its donor, John D. Rockefeller, and Rhoads North and South for the first president of the College, James E. Rhoads. Erdman Hall, first opened in 1965, was named in honor of Eleanor Donnelley Erdman, Class of 1921 and former member of the Board of Directors. The Clarissa Donnelley Haffner Hall, which brings together into a "European village" three houses for students of French, German, Italian, and Spanish, was opened in the fall of 1970. A Russian House is also provided. Perry House is the black cultural center and residence.



The College offers a variety of living accommodations, including singles, doubles, triples, quadruples, and a few suites. The College provides basic furniture, but students supply linen, bed pillows, desk lamps, rugs, mirrors, curtains, and other accessories they may wish. Summer storage is very limited and may be at the student's expense.

The maintenance of halls is the responsibility of the director of administrative services and the director of house-keeping. At the end of the year, each student is held responsible for the condition of her room and its furnishings.

### **THE BERN SCHWARTZ GYMNASIUM**

The center of the College's physical education program is the Bern Schwartz Gymnasium. This 50,000 square-foot facility houses an eight-lane swimming pool and separate diving well, courts for basketball, badminton, and volleyball, a gymnastics room and dance floor, and weight training equipment.

### **THE CENTENNIAL CAMPUS CENTER**

The Centennial Campus Center, a transformation of the historic gymnasium building on Merion Green, opened in May, 1985. As the center for non-academic life the facility houses a cafe, lounge areas, meeting rooms, an exhibition space for the Arts Program, the College post office, and the bookshop. The Office of Student Services, Campus Ministries, and the Women's Center are also located there. Students, faculty, and staff use the campus center for informal meetings and discussion groups as well as for campus-wide social events and activities.

## **STUDENT LIFE**

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### **STUDENT ADVISING**

The deans are responsible for the general welfare of undergraduates, and students are free to call upon them for help and advice on both academic and general matters. After students select their majors, at the end of their sophomore year, they are assigned a faculty adviser in that department who helps



them plan their academic program for the junior and senior years. In addition to deans, students may consult the director of student services, the international student adviser, the director of minority affairs, the director of financial aid, and the director of career development. The Student Services staff and upperclass students known as hall advisers provide advising and assistance on questions concerning life in the residence halls. The College's medical director, the consulting psychiatrist, and several counselors are also available to all students through scheduled appointments or, in emergencies, through the nursing staff on duty twenty-four hours a day in the Health Center.

For freshmen and transfer students, the College and the Bryn Mawr-Haverford Customs Week Committee provide a period of orientation. Freshmen and transfers come into residence before the College is opened to upperclassmen. The deans, hall advisers, and the Customs Week Committee welcome them, answer questions, and give advice. New students with their parents may meet at that time with the president. In addition, faculty members are available for consultation, and all incoming students have individual appointments with a dean or other adviser to plan their academic programs for the year. Undergraduate organizations at Bryn Mawr and Haverford Colleges acquaint new students with other aspects of college life.

## THE HONOR CODE

The high degree of trust and responsibility which the College has always given to its students is reflected in the academic and social honor codes. These delegate to the individual students responsibility for integrity in their academic and social behavior. Responsibility for administering the academic honor code is shared with the faculty; the Academic Honor Board, comprised of both students and faculty, mediates in cases of infraction. In the social honor code, as in all aspects of their social lives, the students are entirely self-governing; a Social Honor Board, consisting of ten students, mediates in cases where social conflicts cannot be resolved by the individuals directly involved.

The successful functioning of the honor code is a matter of great pride to the Bryn Mawr community, and it contributes significantly to the mutual respect that exists among students and between students and faculty. While the honor

code makes great demands on the students' maturity and integrity, it also grants them an independence and freedom which they value highly. To cite just one example, many examinations are self-scheduled, so that students may take them at whatever time during the examination period is most convenient for their own schedules and study patterns.

### **ACADEMIC SUPPORT SERVICES**

Academic support services at Bryn Mawr are divided into three general areas: writing support services, tutoring, and study skills support services. The writing program offers a writing clinic in which peer tutors assist students who need help with composition and other courses. The writing program also offers occasional workshops open to the campus. Writing support services are free of charge. Tutoring is available in all subject areas. Tutoring fees are low and subsidies are available. Students who need to strengthen their study skills are referred to the Child Study Institute, run by Bryn Mawr's Department of Human Development, for evaluation and tutoring. This cost is also subsidized by the College.

Often students have special needs for academic support; for example learning-disabled students, students who are not conventionally prepared, and students who are not native speakers of English. Individualized programs are developed to meet students' needs. Any student interested in academic support services should consult with her dean or with Dean Jo Ellen Parker, who coordinates these services.

### **THE BRYN MAWR-HAVERFORD CAREER DEVELOPMENT OFFICE**

Students and alumnae are invited to make use of the services of the Career Development Office, which include career and job search counseling, Bryn Mawr and Haverford Colleges group and private sessions on resume writing and job-hunting techniques; information on and referrals for on- and off-campus part-time jobs and summer and permanent positions; updated information on over one thousand internships; scheduling on-campus interviews; and maintaining and furnishing to employers, upon request, credentials files of letters of recommendation.

During the academic year the office sponsors career panels, featuring alumnae and alumni, to provide students with a broader knowledge of career options. In recent years, these panels have focused on careers in law, science, human services, the arts, business and management, finance, and computer science.

In cooperation with alumnae and alumni, the office provides students with access to a network of graduates who make themselves available to students for personal consultation on career-related questions and who in practical ways assist students in learning more about career fields of interest. Students interested in exploring specific career fields may participate during spring vacation in the extern program, working as "shadow colleagues" with sponsors who are specialists in these fields.

## RESIDENCE

Residence in the college buildings is required of all undergraduates with these exceptions: those who live with their families in Philadelphia or the vicinity and those who live in houses or apartments of their own choosing after having received permission to do so from the College during the annual room draw. In the latter instance, it is the responsibility of students to obtain permission from their parents.

The College maintains the halls of residence in order to provide simple, comfortable living for its students. It expects students to respect its property and the standards on which the halls are run. A printed statement of residence regulations is included in the undergraduate student handbook. Failure on the part of a student to meet the requisite standard in the care of her room may cause the College to refuse her residence the following year.

Thirty-one hall advisers provide referrals and advice to all students living in the halls, and work with the student officers who are responsible for the functioning of the social honor code within the halls.

The halls are open during fall break and Thanksgiving vacation, but for winter and spring vacations special arrangements must be made by students who wish to remain in residence. They must pay a special fee for room and board and must live in an assigned residence hall. The meal plan is not in effect during fall break and Thanksgiving vacation.

## COEDUCATIONAL RESIDENCE HALLS

Coeducational residence halls on the Bryn Mawr campus were established in 1969-70, housing students from Bryn Mawr and Haverford. In addition, Haverford College has made available a number of dormitories and suites for Bryn Mawr students. As neither Bryn Mawr nor Haverford allows room retention from one year to the next, the number and kind of coeducational housing units change each year.

## LANGUAGE HOUSES

Haffner Hall, which opened in the fall of 1970, is comprised of separate units for qualified students of French, Italian, German, and Spanish. Students interested in the study of Russian have independent facilities in Russian House.

Undergraduates who wish to live in a language house should apply to the head of the appropriate department during room draw. Adequate preparation in the language is a prerequisite and those who are accepted agree to participate in the activities of the house and to avail themselves of opportunities to converse in the foreign language. Residence in a language house provides an excellent opportunity to gain fluency in speaking a foreign language.

## NON-RESIDENT STUDENTS

For non-resident students, locked mailboxes are available in the Centennial Campus Center. Non-resident students are liable for all undergraduate fees except those for residence in a hall. All matriculated undergraduate students are entitled to full use of all out- and in-patient health services.

## INSURANCE

The College is not responsible for loss of personal property due to fire, theft, or any other cause. Students who wish to insure against these risks should do so individually or through their own family policies.



## LEAVE OF ABSENCE

A student who is in good standing at the College may apply to her dean for a leave of absence. A leave may be requested for one or two semesters and, once approved, reinstatement is granted contingent upon residential space available at the time a student wishes to return to the College. Application must be made in writing by July 1 of the academic year preceding the requested leave (or November 1 for a second-semester leave). The deans and members of the student's major department review any questions raised by the student or her dean regarding the approval of leave. In case of study away from Bryn Mawr, either abroad or at another institution in the United States, the transfer of credits is treated in the usual manner by the Transfer Credit Committee. A student should confirm her date of return, by letter to her dean, by March 1 preceding return for the fall semester and by December 1 for return in the spring semester.

A student may extend her leave of absence for one additional semester beyond the originally agreed upon date of return, with her dean's permission. Application must be made in writing by July 1 of the academic year preceding the requested extension (or November 1 for a second-semester extension). A student who does not return after a leave without permission for an extension, or who does not return after an extension of leave, is withdrawn from the College and must apply for readmission.

## HEALTH SERVICE

The College Health Service provides medical consultation for all matriculated students. Out-patient, physician, and nursing services are provided without fee for all undergraduate students and any graduate students who have enrolled in the College health insurance program. Graduate students not enrolled in this program can receive services for a nominal fee. If drugs, tests, special consultation, or private nursing care is necessary, the student must meet the expense. Inpatient care is provided for students who require nursing care or isolation but do not require hospitalization.

A counseling service is available to all students. Consultation with a psychologist, social worker, or psychiatrist can be arranged by appointment through the Health Center secretary. Counselors can be reached through the Health



Center in cases of emergency. A charge, determined on a sliding scale based on ability to pay, is made for visits to the counseling service in excess of six in any given year. Should long-term therapy be necessary, the student is referred for outside private care.

### **MEDICAL REQUIREMENTS**

All entering students must file medical history and evaluation forms with the health service before registration for classes.

### **MEDICAL INSURANCE**

All undergraduate students are required to carry health insurance valid in the United States. For those who need coverage, student policies are offered.

### **MEDICAL LEAVE OF ABSENCE**

A student may, on the recommendation of the College physician or her own doctor, at any time request a medical leave of absence for reasons of health. The College reserves the right to require a student to withdraw for reasons of health, if in the judgment of the medical director, she is not in sufficiently good health to meet her academic commitments or to continue in residence at the College. Permission to return is granted upon evidence of recovery.

### **CHILD CARE**

Child care is available for Bryn Mawr and Haverford College families on a space-available basis at the New Gulph Children's Center and at the Phebe Anna Thorne School. The New Gulph Children's Center is located at Conestoga and Sproul Roads, Villanova, just ten minutes from the campus. Children three months through four years old are eligible. The center is open five days a week, 7:30 a.m. to 5:30 p.m.

The center, conducted by a professional staff, incorporates appropriate age group development activities with high quality group care, plus a nursery school program. Flexible

schedules can be arranged to accommodate the programs of students, staff, faculty, and alumnae parents. A minimum of three a.m. sessions for the infant/toddler program or five a.m. sessions for the nursery school program is required.

The fee scale is based on the age of the child and the number of hours. Tuition for the semester is payable in full or in monthly installments. Early registration for all programs is essential. For more information contact the director at (215) 688-2411.

The Phebe Anna Thorne School, situated on the Bryn Mawr campus, is a laboratory nursery school run in cooperation with the Department of Human Development. The Thorne School offers a developmentally oriented, child-centered program in which children develop a sense of competence and well-being within the group through play, problem-solving, and social interaction.

During the academic year, the Thorne School offers two morning programs, one for three-year-olds and one for four-year-olds. The morning programs begin at 9:00 a.m. and conclude at 12 noon. Children may arrive as early as 8:30 a.m. and must be picked up by 12:00.

The Thorne School also offers an afternoon program for three- and four-year-olds combined. Although the specific content of activities may vary, the general structure of the afternoon program is similar to that of the morning programs. The afternoon program begins at 12:30 p.m. and concludes at 3:30 p.m. Children may arrive as early as 12:15 and must be picked up by 3:30.

Children may attend either the morning program, the afternoon program, or both. For children attending both programs, arrangements can be made for the child to remain at the Thorne School through the lunch period.

In July, the Thorne School offers a summer program. This program begins at 9:00 a.m. and concludes at 12 noon.

## **THE FAMILY EDUCATIONAL RIGHT AND PRIVACY ACT OF 1974**

The Family Educational Rights and Privacy Act of 1974 was designed to protect the privacy of educational records, to establish the right of students to inspect and review their education records, and to provide guidelines for the correction of inaccurate or misleading data through informal and formal hearings. Students have the right to file complaints with The Family Educational Rights and Privacy Act Office (FERPA),

Department of Education, 5411 Switzer Building, 330 C Street S.W., Washington, D.C. 20201, concerning alleged failures by the institution to comply with the act.

Copies of Bryn Mawr's policy regarding the act and procedures used by the College to comply with the act can be found in the Office of the Undergraduate Dean. Questions concerning the Family Rights and Privacy Act may be referred to the Office of the Undergraduate Dean.

## **DESIGNATION OF DIRECTORY INFORMATION**

Bryn Mawr College hereby designates the following categories of student information as public or "directory information." Such information may be disclosed by the institution for any purpose, at its discretion.

Category I	Name, address, dates of attendance, class, enrollment status
Category II	Previous institution(s) attended, major field of study, awards, honors, degree(s) conferred
Category III	Date of birth
Category IV	Telephone number
Category V	Marital status

Currently enrolled students may withhold disclosure of any category of information under the Family Educational Rights and Privacy Act of 1974 by written notification which must be in the Office of the Registrar, Taylor Hall, by 5 p.m. on the second Friday of September. Forms requesting the withholding of "directory information" are available in the Office of the Registrar. Bryn Mawr College assumes that failure on the part of any student to request the withholding of categories of "directory information" indicates individual approval of disclosure.

## **EQUALITY OF OPPORTUNITY**

Bryn Mawr College does not discriminate on the basis of race, color, religion, national or ethnic origin, sexual preference, age, or physical ability in administration of its educational policies, admissions policies, scholarship and loan programs, and athletic and other College-administered programs, or in its employment practices.

In conformity with the Civil Rights Act of 1964, as amended, it is also the policy of Bryn Mawr College not to discriminate on the basis of sex in its education programs, activities, or employment practices. The admission of only women in the Undergraduate College is in conformity with a provision of the act. Inquiries regarding compliance with Title IX and other policies of non-discrimination may be directed to the Equal Opportunity Officer, who administers the College's procedures.

#### **THE REHABILITATION ACT OF 1973, SECTION 504**

The College is firmly committed to the principle of making reasonable accommodation in all aspects of campus life to physically disabled students and staff. We have found that this is best achieved by meeting the needs of persons with various disabilities on an individual basis.

Disabled students in the Undergraduate College should consult Dean Jo Ellen Parker, the Undergraduate College's representative to the 504 Advisory Committee, or Sandra Silverman, assistant director of student services for residence life, and chairman of the 504 Advisory Committee, for further information on accommodations.



# GEOGRAPHICAL DISTRIBUTION

## 1988-89 UNDERGRADUATE DEGREE CANDIDATES

The students are from forty-eight states, plus the District of Columbia, and forty-six foreign countries with distribution as follows:

### U.S. Residence

#### *New England*

Maine	14
New Hampshire	8
Vermont	11
Massachusetts	56
Rhode Island	4
Connecticut	40
	<hr/>
	133 (11.1%)

#### *Middle Atlantic*

New Jersey	97
New York	170
Pennsylvania	162
	<hr/>
	429 (35.7%)

#### *East North Central*

Ohio	26
Indiana	12
Illinois	40
Michigan	13
Wisconsin	8
	<hr/>
	99 (8.2%)

#### *West North Central*

Minnesota	13
Iowa	3
Missouri	4
North Dakota	1
South Dakota	1
Nebraska	1
Kansas	8
	<hr/>
	30 (2.6%)

#### *East South Central*

Kentucky	10
Tennessee	8
Alabama	4
Mississippi	0
	<hr/>
	22 (1.8%)

#### *West South Central*

Arkansas	0
Louisiana	6
Oklahoma	5
Texas	19
	<hr/>
	30 (2.5%)

#### *Mountain*

Montana	2
Idaho	2
Wyoming	2
Colorado	14
New Mexico	10
Arizona	20
Utah	6
Nevada	2
	<hr/>
	58 (4.8%)

#### *Pacific*

Alaska	3
Washington	19
Oregon	11
California	88
Hawaii	10
	<hr/>
	131 (10.9%)

Geographical Distribution

*South Atlantic*

Delaware	6
Maryland	60
District of Col.	9
Virginia	29
West Virginia	8
North Carolina	10
South Carolina	4
Georgia	16
Florida	22
Puerto Rico	0
Virgin Islands	0
	<hr/>
	164 (13.6%)

*Foreign Residence*

Argentina	1	Malaysia	2
Australia	2	Mexico	2
Austria	1	Morocco	1
Bangladesh	2	Nepal	1
Brazil	2	Netherlands	2
Canada	5	Norway	1
China	1	Pakistan	4
Colombia	1	Philippines	3
Cyprus	2	South Africa	3
England	4	Saudi Arabia	3
Ethiopia	1	Singapore	1
France	2	Spain	3
Greece	1	Sri Lanka	2
Haiti	1	Switzerland	5
Hong Kong	3	Taiwan	1
Hungary	1	Thailand	2
India	7	Turkey	6
Indonesia	1	Uruguay	1
Israel	1	West Germany	4
Italy	2	Zambia	1
Japan	5	Zimbabwe	1
Jordan	1		
Kenya	2		
Korea	3		
Kuwait	4		

Totals:	U.S. Residence	1097 (91%)
	Foreign Residence	105 (9%)

## CURRICULUM

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The Bryn Mawr curriculum is designed to encourage breadth of learning and training in the fundamentals of scholarship in the first two years, and mature and sophisticated study in depth in a major program during the last two years. Its overall purpose is to challenge the student and prepare her for the lifelong pleasure and responsibility of educating herself and playing a responsible role in contemporary society. It encourages independence within a rigorous but flexible framework of divisional and major requirements, and fosters self-recognition for individuals as members of diverse communities and constituencies: national, socio-economic, ethnic, and sexual.

The Bryn Mawr curriculum obtains further breadth through inter-institutional cooperation. Virtually all undergraduate courses and all major programs at Bryn Mawr and Haverford Colleges are open to students from both, greatly increasing the range of available subjects. Full-time Bryn Mawr students may also take courses at Swarthmore College, the University of Pennsylvania and Villanova University during the academic year without payment of additional fees.

The degree of Bachelor of Arts is conferred upon students who have completed the requirements described below.

### REQUIREMENTS FOR THE A.B. DEGREE AT BRYN MAWR

#### Summary of Requirements

Thirty-two units of work are required for the A.B. degree. These must include:

1. two courses in English composition, unless exempted
2. one course to meet the quantitative skills requirement
3. work to demonstrate the required level of proficiency in foreign language
4. seven courses to meet the divisional requirement
5. a major subject sequence
6. elective units of work to complete an undergraduate program

In addition, all students must complete eight half semesters of physical education and must meet the residency requirement.

### **English Composition Requirement**

Each student must include in her program two semesters of English composition (English 015-016) unless she has achieved a score of 5 on the Advanced Placement Test. The Department of English also administers an exemption test.

### **Quantitative Requirement**

Each student must complete work in college-level mathematics or quantitative skills to consist of:

- a. passing with an honor grade an Advanced Placement examination in mathematics, or
- b. passing one course (one unit) in mathematics at the 100 level or above, or
- c. passing one course from the following list of courses which teach or use quantitative skills: Economics 203: Statistical Methods in Economics; Philosophy 213: Intermediate Logic; Philosophy 214: Modal Logic; Philosophy 215: Introduction to Set Theory; Philosophy 242: Theory of Recursion; Physics 101, 102: Introductory Physics; Psychology (H)113: Introduction to Psychological Statistics; Psychology 205: Experimental Methods and Statistics; Sociology 265: Research Design and Statistical Analysis; and any course in Computer Science. Additional courses may be added to this list; a student should consult her dean for new offerings.

Courses used to fulfill the requirement in mathematics or quantitative skills cannot be used to fulfill a divisional requirement.

### **Foreign Language Requirement**

There are two parts to this requirement:

1. Competence in Language: A knowledge of one language other than English (or other than the student's language of origin) to be demonstrated by
  - a. passing a proficiency test offered by the College every spring and fall, or
  - b. attaining a score of at least 650 in a language achievement test of the College Entrance Examination Board (CEEB), or by passing with an honor grade an Ad-



vanced Placement test, also offered by CEEB, in French, German, Spanish or Latin. (The number of academic units of credit awarded for honor grades in Advanced Placement exams is determined by the departments), or

- c. completing two courses (two units) above the elementary level with an average grade of at least 2.0 or a grade of at least 2.0 in the second course.

2. Additional Work in Language or Mathematics: to consist of

- a. completing a foreign language to an advanced level, defined as passing two courses (two units) at the 200 level or above with an average grade of at least 2.0 or a grade of 2.0 in the second course, or passing a proficiency test, the nature and standard of which are determined by the departments of foreign languages with the approval of the Curriculum Committee, or
- b. attaining knowledge of a second foreign language to be demonstrated in the same way as knowledge of the first (1c. above), or
- c. completing two courses (two units) in mathematics at the 100 level or above, including at least one semester of calculus.

**Foreign Language Requirement for Non-Native Speakers of English**

Students whose language of origin is not English are those who applied to Bryn Mawr as international students and indicated on their admission application that English is not their language of origin, who have had at least several years of school in a language other than English and who are able to read and write, as well as speak, this language, or who have submitted TOEFL scores as part of their admission application.

For these students two semesters of English 015, 016: Reading and Composition fulfills the requirement for competence in language (as well as the English composition requirement). Non-native English speaking students who wish to complete the requirement for additional work in language or mathematics by completing foreign language to an advanced level must pass two courses (two units) offered by the English

department at the 200 level or higher, with an average grade of at least 2.0 or a grade of 2.0 in the second course.

### **Divisional Requirement**

The divisional requirement for students who matriculate in September, 1987 and thereafter:

Each student must complete two courses in the social sciences (Division I), two courses in the natural sciences (Division II), and three courses in the humanities (Division III). At least one required course in Division II must be a laboratory science course. Courses in the Arts Program are a part of Division III, and may be used to fulfill one of the three courses in the humanities. Students majoring in the humanities may use no more than two courses from their major department to meet the divisional requirement.

All divisional requirements must be completed before the start of the senior year. No course may satisfy more than one divisional requirement. A student may not use courses in her major subject to satisfy more than one divisional requirement. English 015 and 016 do not meet the divisional requirement in Division III.

Divisional credit is assigned by course. Students should consult the course guide published each semester to inform themselves of which courses satisfy the various divisional requirements. Each student is responsible for understanding what divisional credit she may earn for the courses she takes. The Curriculum Committee considers petitions from individual students for exceptions.

Students who matriculated before September, 1987, should consult earlier editions of the Bryn Mawr College catalogue for the divisional requirement that applies to them.

### **Major Requirements**

At the end of the sophomore year each student must choose a major subject and, in consultation with the departmental adviser, plan an appropriate sequence of major courses. She must complete a major work plan with the department's major adviser and submit a copy to her dean.

No student may choose to major in a subject in which she has incurred a failure, or in which her average is below 2.0. A student may double major, but she should expect to complete all requirements for both major subjects.

Students may choose to major at Haverford College, in which case they must meet the major requirements of Haverford College and the degree requirements of Bryn Mawr

College. A student may major in any department at Haverford. Procedures for selecting a Haverford major are available from the Haverford Dean's Office at all times and are sent to all sophomores in the early spring. Permission of the Haverford dean is required for a double major that includes a Haverford department.

Every student working for an A.B. degree is expected to maintain grades of 2.0 or above in all courses in her major subject. A student who receives a grade below 2.0 in a course in her major is reported to the Undergraduate Council and may be asked to change her major. If at the end of her junior year a student has a major subject average below 2.0 she must change her major. If she has no alternative major, she will be excluded from the College. A student who is excluded from the College is not eligible for readmission. A student whose numerical grade average in her major remains above 2.0 but whose work has deteriorated may also be required to change her major.

A student with unusual interest or preparation in several areas could consider an independent major, one of the interdepartmental majors, a double major, a major with a strong minor, or a concentration involving work in several departments built around one major as a core. Such programs can be arranged by consulting the dean and members of the departments concerned.

A student who wishes to pursue independent study of a special area, figure, or problem within a given discipline, may, if she finds a faculty member willing and able to supervise such work, substitute one or two units of supervised work for one or two courses.

Each department sets its own standards and criteria for honors in the major, with the approval of the Curriculum Committee. Students should see departments for details.

### **The Independent Major**

Students who wish to design independent majors must submit their completed applications before the spring recess of the sophomore year or, if junior transfers, by the Friday of the fourth week of classes in the fall term of the junior year.

Sophomores interested in the independent major should attend the special meeting conducted by the supervising dean (1988-89, Dean Behrend) early in the spring semester. Students must enlist two faculty members who are willing to act as sponsors: one faculty member, who acts as director of the program, must be a member of the Bryn Mawr or Haverford

faculty. Plans for an independent major should be developed with the advice of the sponsors.

The application consists of a major work plan, a personal statement, and supporting letters. The work plan should show how the candidate intends to fulfill her degree requirements; show a major plan to consist of at least eleven courses, all but four of which must be completed at Bryn Mawr unless there is a junior leave; at least two 300- level courses; and some senior work (a departmental senior seminar, a senior thesis, or other independent supervised work). The candidate must submit a statement describing her interest in the independent major, showing how her program differs significantly from any departmental major, and explaining the logic of the major work program she has submitted. A letter of support from each of the faculty sponsors must accompany the major work plan. All of the above are submitted to the supervising dean for the Committee on Independent Majors; the Committee's decisions on proposals are final. The Committee also approves the title of the major.

The progress of the students whose proposals are accepted is monitored by the Committee. All changes in the program must be approved by the sponsor and the Committee. A grade of 2.0 or higher is required for all courses in the major. If this standard is not met in a course, the student must immediately change to a departmental major.

### **The Minor**

Many departments, but not all, offer a minor. Students should see departments for details. The minor is not required for the Bachelor of Arts degree. A minor usually consists of six courses, with specific requirements to be determined by the department. If a course taken under the CR/NC of NNG (see below) option subsequently becomes part of a student's minor, the grade is not converted to its numerical equivalent. There is no required average for a minor.

In addition to departmental minors, minors are available in computer science, theater, and women's studies, and concentrations are available in East Asian studies, Hispanic and Hispanic-American studies, and peace studies. See the section on Interdepartmental Work (page 282) for further information on these programs. In general, it is not possible to minor in departments at Haverford College.

### **Physical Education**

All students must complete eight terms (one half semester each) of physical education and pass a swimming test. Trans-



fer students must have their previous physical education experience reviewed by the director of physical education. Students to whom this requirement presents special problems should consult the director of physical education.

### **Residency**

Each student must complete a minimum of twenty-four courses while in residence at Bryn Mawr. This may include courses taken at Haverford and Swarthmore Colleges and the University of Pennsylvania. Of these twenty-four courses, eight must be completed during the junior or senior year, and the senior year must be spent in residence. Students do not normally spend more than the equivalent of four years completing the work of the A. B. degree. Exceptions to this requirement for transfer students entering as juniors are considered at the time of transfer application.

### **Exceptions**

All requests for exceptions to the above regulations are presented to the Curriculum Committee for approval. Normally, a student consults her dean and prepares a written statement to submit to the committee; a student may also appear before the committee if she wishes.

## **ACADEMIC REGULATIONS**

### **Registration**

**Procedures:** Each semester all Bryn Mawr students register for the next semester's courses with the deans on days specified in the Academic Calendar. Failure to register results in a \$15 fine. Students must then confirm their registration with the deans and submit their final programs to the registrar in the Thursday and Friday of the second week of classes each semester. Failure to confirm registration results in a \$25 fine.

**Normal Course Load:** Students normally carry a complete program of four courses (4 units) each semester. Exceptions are granted by the student's dean as long as the student is making normal progress toward her degree, but under no circumstances are students permitted to register for more than five courses (5 units) per semester.

### **Registration Options**

**Credit-No Credit Option:** A student may take four courses over four years, not more than one in any semester, under the Credit/No Credit (CR/NC) or Haverford's No Numerical

Grade (NNG) option. A student registered for a course under either option is considered a regular member of the class and must meet all the academic commitments of the course on schedule. The instructor is not notified of the student's CR/NC or NNG registration because this information should in no way affect the students' responsibilities in the course.

A student may not elect both the CR/NC and NNG option in the same semester. A student registered for five courses is not permitted a second CR/NC or NNG registration.

Faculty members submit numerical grades for all students in their courses. For students registered CR/NC, the registrar converts the numerical grades of 1.0 and above to CR and the grade of 0.0 to NC for recording on the students' official transcripts. Numerical equivalents of CR grades are available to each student from the registrar, but once the CR/NC option is elected, the grade is converted to its numerical equivalent on the transcript only if the course becomes part of the student's major.

Courses taken under this option may be used to meet the divisional requirement and the English composition requirement. To meet these requirements, a grade of CR (1.0 or above) is required. No course in the major subject may be taken under this option. A student may elect to take a course to complete the language and mathematics requirements under the CR/NC option, but when grades of 2.0 or averages of 2.0 are required, that requirement must be met. The registrar monitors completion of requirements.

For regulations concerning NNG, see the Haverford College Academic Regulations.

Students wishing to take a course CR/NC must sign the registrar's register by the end of the third week of classes. *No student is permitted to sign up for CR/NC after that time.* To elect the CR/NC option for a year-long course, such as English composition, in which only one grade is given for the year, a student must sign up in September for the full year. The student may not then elect a second course CR/NC or NNG in Semester II, nor may she elect such a year-long course CR/NC in the second semester only. Students who wish to register for CR/NC for year-long courses in which grades are given at the end of each semester, must register CR/NC in each semester because CR/NC registration does not automatically continue into the second semester in those courses. Haverford students taking Bryn Mawr courses may register for CR/NC at the Haverford Registrar's Office or at Bryn Mawr.

*Year-long Courses:* A few courses, including all introductory languages, are designed as year-long, two-semester sequences. In these courses students must complete the second semester in order to earn credit for both semesters. Students must have the permission of the professor to receive credit for only one semester of a year-long course. *Credit is never given for one semester of an introductory language course.* Courses to which this rule applies are so designated in each department's course lists. Forms for permission to take one semester of a year-long course are available from the Office of the Dean.

Some courses, including many introductory level survey courses, are designed as two-semester sequences, but students may take either semester without the other and receive credit for the course.

*Half-credit Courses:* Half-credit courses may be taken for credit at Bryn Mawr, Haverford, Swarthmore, and the University of Pennsylvania. Grades earned become part of the student's average, but the half credit counts toward the A. B. degree only if it is paired with another half-credit course in the same field. Bryn Mawr does not permit half-credit registration for the lecture or the laboratory portion of any course which normally includes both. Exceptions to this rule are made by the Curriculum Committee.

*Independent Study:* Most departments allow students to pursue independent study as supervised work, provided that a professor agrees to supervise the work. Requests for interdepartmental independent study generally require approval of the Curriculum Committee as well. Students pursuing independent study usually register for a course in that department numbered 403 and entitled Supervised Work, unless the department has another numerical designation for independent study. Students should consult with their deans if there are any questions regarding supervised work.

*Auditing:* Students may audit courses subject to permission of the instructor. There are no extra charges for audited courses, and they are not listed on the transcript. Students may not register to take the course for credit after the stated date for confirmation of registration.

*Limited Enrollment:* Some courses are designated as limited enrollment in the Course Guide. The Course Guide provides details about restrictions. *If consent of the instructor is required*, the student is responsible for securing permission. *If course size is limited*, the final course list is determined by lottery. Students may pre-register during pre-



registration periods or may sign up on lists posted outside the Dean's Office not later than 5 p.m. on the first day of classes. Final lists are posted by 5 p.m. on the third day of classes.

*Withdrawals:* No student may withdraw from a Bryn Mawr course after the first two weeks of each semester. Exceptions to this regulation must be approved by the professor and the appropriate Bryn Mawr dean.

### **Cooperation with Neighboring Institutions**

Full-time students at Bryn Mawr may register for courses at Haverford College, Swarthmore College, and the University of Pennsylvania during the academic year without payment of additional fees. (This arrangement does not apply to summer schools.) Credit toward the Bryn Mawr degree is granted for such courses with the approval of the student's dean, and grades are included in the calculation of the grade point average. Bryn Mawr also has a limited exchange program with Villanova University.

*Haverford and Swarthmore Colleges:* Students register for Haverford courses by listing them on the Bryn Mawr registration form, but students who register for Haverford courses that are limited in enrollment must follow Haverford procedures, including signing the limited enrollment list at the Haverford Registrar's Office.

A student may also enter Swarthmore courses on her Bryn Mawr registration form, but she must also register at Swarthmore by taking a note of permission from her dean, available in the Dean's Office, to 124 Parrish Hall, Swarthmore. She must also secure the instructor's permission.

*The University of Pennsylvania:* Bryn Mawr students may register for up to two courses a semester at the University of Pennsylvania, on a space available basis. Students may take at Penn only courses not regularly offered at Bryn Mawr and Haverford. Scheduling problems are not considered an adequate reason for seeking admission to a course at Penn.

Not all courses offered at Penn are acceptable for credit toward the A.B. degree at Bryn Mawr. Students are responsible for determining that the course they wish to take is acceptable for credit toward their degree and should consult their dean about this before they register for the course.

In order to register for a course at Penn the student should consult the Penn course guide, and must take a note of permission from her dean to the College of General Studies, 210 Logan Hall, at Penn and obtain a permit stamp from the



relevant school or department at Penn. The Penn course guide and notes of permission are available in the Dean's Office.

If the Penn course guide indicates that consent of the instructor is required for enrollment in a course, the student is responsible for securing this permission from the instructor. Bryn Mawr students may not register for courses at Penn until the first week of each semester, and must meet all University of Pennsylvania deadlines for dropping and adding courses. It is the student's responsibility to make arrangements for variations in academic calendars. Students should consult their dean if they have any questions about University of Pennsylvania courses or registration procedures.

*Villanova University:* Bryn Mawr juniors and seniors may take one course a semester in the College of Arts and Sciences at Villanova University, on a space available basis, provided that the course is not offered at Bryn Mawr or Haverford. If the course is fully enrolled, Bryn Mawr students can be admitted only with the permission of the Villanova instructor. This exchange is limited to superior students for work in their major or in an allied field; students must have permission of both their major adviser and their dean. Courses taken on the Villanova exchange may only be taken for full grade and credit; Bryn Mawr students may not elect Villanova's pass/fail option for a Villanova course. Credits earned at Villanova are treated as transfer credits; the grades are not included in the student's grade point average, and these courses do not count toward the residency requirement.

In order to register for a course at Villanova, a student should consult the Villanova course guide, available in the Dean's Office, and obtain a registration form to be signed by her major adviser and returned to the Dean's Office. The Dean's Office forwards all registration information to Villanova; students do not register at Villanova. Students enrolled in a course at Villanova are subject to Villanova's regulations and must meet all Villanova deadlines regarding dropping and adding, withdrawal, and completion of work. It is the student's responsibility to make arrangements for variations in academic calendars. Students should consult their dean if they have any questions about Villanova University courses or registration procedures.

### **Conduct Of Courses**

*Attendance:* Regular attendance at classes is expected. Responsibility for attendance, and for learning the instructor's

standards for attendance, rests solely with each student. Absences for illness or other urgent reasons are excused, but within the semester a student should consult her instructors about making up the work. If it seems probable to the dean that a student's work may be seriously handicapped by the length of her absence, she may require the student to withdraw from one or more courses.

### **Quizzes and Examinations**

*Quizzes:* Announced quizzes, written tests of an hour or less, are given at intervals throughout many courses. The number of quizzes and their length are determined by the instructor. Unannounced quizzes may also be included in the work of any course.

If a student is absent without previous excuse from a quiz, she may be penalized at the discretion of the instructor. If a student has been excused from a quiz because of illness or some other emergency, a make-up quiz is often arranged. The weight is decided by the instructor.

*Examinations/Papers in Lieu of Examinations:* An examination is required of all students in undergraduate courses, except when the work for the course is satisfactorily tested by other means.

If a student fails to appear at the proper time for a scheduled, self-scheduled or deferred examination or fails to return a take-home exam, she is counted as having failed the examination and automatically receives a grade of 0.0 in the course. Failure to submit a paper assigned in lieu of an examination may result in failure of the course; it is the student's responsibility to inform herself of the instructor's policy on this point.

*Deferred Examinations:* A student may have an examination deferred by the dean because of illness or some other emergency. When the deferral means postponement to a date after the conclusion of the examination period, she must take the examination at the next Deferred Examination Period listed in the Academic Calendar. Students should be aware that exams deferred in Semester I are given in the first weeks of Semester II; exams deferred in Semester II are not given until the first semester of the following academic year.

*Deadlines, Extensions, and Incompletes for Written Work:* Within the semester, the instructor in each course is responsible for setting the date when all written reports, essays, critical papers, and laboratory reports are due. The instructor may grant permission for extensions within the semester; the written permission of the dean is not required

although professors may ask students to inform their dean of the extension or may themselves inform the dean that they have granted an extension.

All essays and written reports in any course must be submitted to the instructor no later than the last day of classes in each semester.

In special cases, with the joint written permission of the instructor and the student's dean, the date for handing in a piece of written work may be extended beyond the last day of classes, and the date for handing in a paper in lieu of examination may be extended beyond the examination period. In these cases, the student must request an extension slip from her dean, take it to the instructor for approval, and return it to the dean.

When written extensions are submitted to the registrar by the student's dean, the instructor submits a grade of Incomplete, which is temporarily recorded on the transcript. If the student does not meet the date set in her extension, and does not request and receive a further extension, the instructor is required to submit a final grade. When official extensions are not received by the registrar from the dean, and the instructor submits a grade of Incomplete, or fails to submit a grade, that grade is temporarily recorded on the transcript as an Unauthorized Incomplete. No grade except a failure can be recorded in place of an UI without an extension or other appropriate action taken jointly by the dean and instructor.

*Senior Deadlines:* Seniors must submit all written work at least 48 hours before the time senior grades are due in the Office of the Registrar. Extensions beyond that date cannot be granted to any senior who expects to graduate that year.

*Social Seniors:* Non-graduating seniors who matriculated with the graduating class may request status as social seniors. (A non-graduating senior is a senior with any degree requirements outstanding, including physical education.) Permission to be a social senior is granted by the student's dean, who conveys her permission to the registrar and the commencement office. A social senior may attend the garden party and other functions connected with commencement. She may march at the end of the graduation line with cap and gown, but without hood. At commencement, she may, if she wishes, receive the recognition of the community, but not the diploma.

*Dates:* Specific dates for all deadlines are published and circulated by the registrar. It is the student's responsibility to inform herself of those dates.



**The Bryn Mawr Standard of Work**

*The Grading System:* The following grades are awarded at Bryn Mawr:

Merit	Satisfactory	Failure
4.0	1.7	0.0
3.7	1.3	
3.3	1.0	
3.0		
2.7		
2.3		
2.0		

*The Merit Rule:* A student must attain grades of 2.0 or above in at least one-half of the total number of courses taken while at Bryn Mawr. She may be excluded from the College at the close of any semester in which she has failed to meet this requirement and is automatically excluded if more than one-half of her work falls below 2.0 at the close of her junior year. A student who is excluded from the College is not eligible for readmission.

*The Standard of Work in the Major Subject:* Every student working for an A.B. degree is expected to maintain grades of 2.0 or above in all courses in her major subject. No student may choose as her major subject one in which she has received a grade below 1.0 or one in which her average is below 2.0.

At the end of the junior year, a student having a major subject average below 2.0 must change her major. If she has no alternative major, she is excluded from the College and is not eligible for readmission.

Any student receiving a grade below 2.0 in any course in her major subject is reported to the Undergraduate Council and may be required to change her major. A student whose numerical average in her major remains above 2.0 but whose work has deteriorated may also be required to change her major. In either case she receives a warning from the Undergraduate Council.

*Changes of Grades:* Changes of grades which have been entered on the transcript are made only by vote of the faculty at faculty meetings. The request to the faculty is made by the instructor. Students who have questions about grades should direct them to the instructor.

*The Undergraduate Council:* The Undergraduate Council, composed of the dean of the Undergraduate College, the



associate and assistant deans, and one faculty member from each department, reviews the records of all students whose work has failed to meet the academic standards of the College. A student's record is brought to the attention of the council when (a) she has incurred a failure of a NC following a previous failure of NC, or (b) when her work has failed to meet (1) the general standards embodied in the Merit Rule or (2) the specific standards in the major subject. The Undergraduate Council also reviews the record of any student whose work has seriously deteriorated.

A student whose record is brought before the council has a consultation with her dean and receives a letter specifying the standards she must meet by the end of the following semester. A student whose record has been reviewed by the council is put on probation the following semester, or the semester of her return if she has been asked to withdraw, and may be required to meet regularly with her dean. Faculty members are requested to submit mid-semester reports for students whose work has been unsatisfactory. Students who meets the standards specified by the council during the semester on probation are then no longer on probation.

In some instances, usually after repeated review of continuing unsatisfactory work, the council may require the student to withdraw from the College and present evidence that she can do satisfactory work before being readmitted. The council may also recommend to the president that the student be excluded from the College. An excluded student is not eligible for readmission to the College.

*Distinctions:* The degree of Bachelor of Arts may be conferred *cum laude*, *magna cum laude*, and *summa cum laude*.

*Cum laude:* GPA: 3.4

In calculating the GPA, grades behind CR, NC, or NNG are *not* included. Summer school grades from Bryn Mawr earned in this campus *are* included; *no* other summer school grades (such as grades from Avignon, Centro, Florence, Penn, or other institutions) are included. Term-time grades transferred from other institutions are *not* included. Term-time grades from Haverford, University of Pennsylvania, and Swarthmore, earned on the exchange, *are* included.

*Magna cum laude:* GPA: 3.6

In calculating the GPA, grades behind CR, NC, or NNG *are* included. Summer school and term-time grades are included or not as for *cum laude*.

*Summa cum laude:*

The degree is awarded *summa cum laude* by vote of the faculty, on the recommendation of the Faculty Committee on the Award of Distinctions and Traveling Fellowships.

The committee reviews the record of each senior who has a GPA of 3.80 (calculated as for *magna*) and who has been nominated by her major department at Bryn Mawr or Haverford. The nomination is solicited by the committee, not by the student.

The committee, in selecting from all eligible students the small number to be nominated for *summa*, follows two principal criteria: the student's capacity for original and accomplished work in the major field; and her intellectual maturity, demonstrated, among other things, by a range of interests and accomplishments extending beyond a single major subject.

**Credit for Work Done Elsewhere**

All requests for transfer credit must be approved by the Transfer Credit Committee. Credit may be transferred for courses taken at accredited four-year colleges and universities, provided that the student earns grades of 2.0 or C (C-grades are not acceptable for transfer credit) or better in these courses. Work done at approved foreign institutions is also accepted for transfer credit; in cases where numerical or letter grades are not given, the Transfer Credit Committee considers written evaluations of the student's work to determine whether she has earned the equivalent of at least 2.0 grades for this work. Grades earned in courses accepted for transfer credit are not included in the grade point average.

A student wishing transfer credit must submit an official transcript to the registrar. A student who wishes to meet College requirements (such as the English composition, mathematics and language, or divisional requirements) at Bryn Mawr with courses taken elsewhere during the academic year must obtain approval from the equivalent Bryn Mawr department. Approval slips are available from the Dean's Office.

Credit is calculated on an hour-for-hour basis. Four semester hours is the equivalent of one unit of credit. Students taking a semester or year of course work away from Bryn Mawr must take the normal *full-time* course load at the institution they are attending in order to receive a semester (four units) or a year (eight units) of transfer credit. Usually

fifteen or sixteen semester hours, or between twenty-two and twenty-four quarter hours, is the equivalent of four units at Bryn Mawr; between thirty and thirty-two semester hours, or forty-five and forty-eight quarter hours, is the equivalent of eight units at Bryn Mawr. Students who complete less than a full-time program with grades of at least 2.0 or C receive proportionally less transfer credit.

A student who wishes to spend a semester or a year away from Bryn Mawr as a full-time student at another institution in the United States or abroad should have the institution and her program approved in advance by her dean, her major adviser, and other appropriate departments. The College cannot guarantee full credit in advance to students who study independently at other institutions. Ordinarily, students on leave are not eligible for College awards and prizes in the year of absence from the College.

Students who transfer to Bryn Mawr from another institution may transfer a total of eight units. Exceptions to this rule for junior transfers are considered at the time of the student's transfer application.

Students may use work which is not transferred for credit to satisfy College requirements, provided that such work would meet the standards for transfer credit.

*Summer School:* A student who wishes to present summer school work for credit must obtain advance approval of her plans from her dean and the appropriate department, and must submit an official transcript to the registrar. No credit is given for a course graded below 2.0 or C (C- grades are not acceptable). Credit is calculated as closely as possible on an hour-for-hour basis.

A total of no more than four units earned in summer school may be counted toward the degree; of these, no more than two units may be earned in any one summer.

*Credit for College or University Work Taken Before Graduation from Secondary School:* Students may receive no more than two units of transfer credit for courses taken prior to graduation from secondary school, provided that these courses were not counted toward secondary school graduation requirements. Requests for transfer credit for work done prior to secondary school graduation are subject to the same provisions and procedures as all other requests for transfer credit.

### **Departure from the College**

*Procedures:* Every student who leaves Bryn Mawr prior to graduation must see her dean and complete a Notice of



Departure. For a student departing during the academic year, some fees may be refundable. The specific dates of the refund schedule are published annually and are available in the offices of the dean, comptroller, and registrar. For resident students, the date of departure is the date on which keys are returned to the Office of Safety and Security. The comptroller does not calculate a refund until she receives notice that keys have been returned.

*Leave of Absence:* A student whose good standing at the College is not in question may apply to her dean for a leave of absence. A leave of absence may be requested for one semester or two consecutive semesters and, once approved, reinstatement is granted automatically, contingent upon space available at the time a student wishes to return to the College. Application must be made in writing by July 1 of the academic year preceding the requested leave (or November 1 for second semester leaves). The deans and members of the student's major department review any questions raised by the student or her dean regarding the approval of the leave. A student should confirm her date of return by March 1 for return in the following fall semester, and by December 1 for return in the spring semester.

A student applying for leave of absence to study at another institution should make arrangements in advance with her dean and her major department to make certain that her program is acceptable for transfer credit, as outlined under "Transfer Credit" above.

A student may extend her leave of absence for one semester beyond the originally indicated date of return by requesting this in writing from her dean. A student who fails to apply for leave by July 1 or November 1 or who extends her leave beyond the approved period without permission of her dean, is withdrawn from the College and must apply for readmission.

*Medical Leave:* A student may, on the recommendation of the College's medical director or her own doctor, at any time request a medical leave of absence for reasons of health. The College reserves the right to request a student to withdraw for medical reasons if, in the judgment of the medical director, her state of health is such that she cannot successfully complete her academic work and/or live in a College residence hall. Permission to return from a medical leave or medical withdrawal is granted only upon evidence of recovery.

*Required Withdrawal:* A student whose behavior disrupts either the normal conduct of academic affairs or the



conduct of life in the residence halls may be asked to withdraw by the dean of the Undergraduate College, in consultation with the student's dean and, if the student has declared a major, with the student's department chair. If the student wishes to appeal the decision, a committee consisting of three faculty members from the Executive Committee of the Undergraduate Council, the president of the Self-Government Association and the head of Honor Board, hears the student, the dean and, when appropriate, the student's department chair. The committee makes its recommendations to the president of the College; the president's decision is binding.

In cases of required withdrawal, no fees are refunded.

*Withdrawal:* Students who withdraw from the College, whether they do so by choice or are required to do so by the College, follow the above procedures for departure. Students who withdraw must apply for readmission if they wish to return, and should request an application for readmission from their dean.

### **Haverford College Academic Regulations**

Bryn Mawr students in Haverford courses are subject to Haverford regulations as applied and interpreted by the Haverford deans. For the purposes of these regulations, a course is defined as a Haverford or Bryn Mawr course solely on the basis of its designation in the course list ("B" for Bryn Mawr and "H" for Haverford), not the campus on which it is taught.

### **Academic Regulations at Swarthmore College, The University of Pennsylvania, and Villanova University**

Bryn Mawr students enrolled in courses at these institutions are subject to the regulations of these institutions. It is the student's responsibility to inform herself about these regulations.

## **CURRICULAR OPPORTUNITIES**

### **Premedical Preparation**

Bryn Mawr, through the curriculum in liberal arts and sciences, provides the opportunity to meet requirements for admission to the leading medical schools of the country, and each year a significant number of its graduates enter these schools. The minimal requirements for most medical schools are met by one year of biology, one year of general chemistry,

one year of organic chemistry, one year of calculus, and one year of physics. Students planning premedical work should consult early in their careers with Dean Behrend, the undergraduate premedical adviser. For a list of scholarships to Bryn Mawr graduates for medical study, see page 329.

### **Post-Baccalaureate Premedical Program**

A post-baccalaureate premedical program is available to graduates of Bryn Mawr and other four-year accredited institutions through Bryn Mawr's Division of Special Studies. For further information, see page 34.

### **Teaching Certification**

Students majoring in liberal arts fields that are taught in secondary school may, by appropriate planning early in their undergraduate career, prepare themselves to teach in the public junior and senior high schools of Pennsylvania. By reciprocal arrangement the Pennsylvania certificate is accepted by a number of other states. A student who wishes to teach should consult early in her college career with Acting Dean Karen Tidmarsh, the adviser for the teacher certification program, with Mary Rohrkemper, assistant professor of human development and director of the teaching certification program, and with the chair of the department concerned so that she may make appropriate curricular plans.

The certification sequence begins with a basic psychology course and includes Education 14: Introduction to Education, Human Development 203: Educational Psychology, Human Development 206: Developmental Psychology, Human Development 207: Adolescent Development, and one additional education course. In the senior year students take Education 16: Curriculum and Methods Seminar and Education 17: Practice Teaching, offered through Swarthmore College. For further information, see page 204.

### **Preparation for Law and Business Schools**

There is no prescribed program of courses required for admission to law or business school; a student with a strong record in any field can compete successfully for admission. Students considering careers in law should consult Dean Behrend, the College's pre-law adviser. Students interested in further education in business and in careers in business should consult the Career Development Office.

*The Chicago Business Fellows Program:* Bryn Mawr participates in the Chicago Business Fellows Program spon-

sored by the Graduate School of Business at the University of Chicago. This program allows Bryn Mawr to nominate one or two juniors for admission to the Graduate School of Business and a full-tuition scholarship for an academic quarter of study toward the M.B.A. degree at Chicago in the summer between the junior and senior year. Upon completion of their undergraduate degree, Chicago Business Fellows may recenter the Graduate School of Business on either a full-time or part-time basis to complete the M.B.A. degree any time within three years of graduation. No specific undergraduate major is required and applicants need not have firm intentions to enter a career in business. For further information students should consult Dean Behrend.

### **The Three-Two Plan in Engineering and Applied Science**

The College has negotiated arrangements with the California Institute of Technology and with the University of Pennsylvania whereby a student interested in engineering and recommended by Bryn Mawr may, after completing three years of work at the College, transfer into the third year of the engineering and applied science option at Caltech, or one of the engineering schools at Penn, to complete two full years of work there. At the end of five years she is awarded a Bachelor of Arts degree by Bryn Mawr and a Bachelor of Science degree by Caltech or by Penn.

In her three years at Bryn Mawr the student must complete the English composition, mathematics, foreign language, and the divisional requirements, as well as a prescribed science program and the basis for a Bryn Mawr major (probably, though not necessarily, in either mathematics or physics). Students considering this option should consult Dean Behrend at the time of registration for Semester I of the freshman year.

### **The Three-Two Program in City and Regional Planning**

This arrangement with the Department of City and Regional Planning at the University of Pennsylvania allows a student to earn an A.B. degree with a major in the Growth and Structure of Cities at Bryn Mawr, and a degree of Master of City Planning at the University of Pennsylvania in five years. While at Bryn Mawr the student must complete the English composition, mathematics, foreign language, and the divisional requirements and the basis of a cities major. The student applies to the Master of City Planning program at Penn in her junior year. No courses taken prior to official



acceptance into the Master of City Planning may be counted toward the master's degree, and no more than eight courses may be double counted toward both the A.B. and the M.C.P. after acceptance. For further information students should consult Barbara Lane, professor of history and major adviser for the Growth and Structure of Cities Program.

### **Reserve Officer Training Corps**

Bryn Mawr students are eligible to participate in the Air Force Reserve Officer Training Corps (AFROTC) through a cross-enrollment agreement with St. Joseph's University, or in the Naval Reserve Officer Training Program (NROTC) through a cross-enrollment agreement with the University of Pennsylvania.

All AFROTC aerospace studies courses are held on the St. Joseph's campus; all NROTC naval science courses are held at the University of Pennsylvania. These programs enable a Bryn Mawr student to earn a commission as an Air Force or Naval officer while concurrently satisfying her baccalaureate degree requirements.

The AFROTC program of aerospace studies at St. Joseph's University offers both two-year and four-year curricula leading to a commission as a second lieutenant in the Air Force. In the four-year curriculum, a student takes the General Military Course (GMC) during the freshman and sophomore years, attends a four-week summer training program, and then takes the Professional Officer Course (POC) in the junior and senior years. The student is under no contractual obligation to the Air Force until entering the POC or accepting an Air Force scholarship. In the two-year curriculum, the student attends a six-week summer training program and then enters the POC in the junior year. Students opting for the two-year curricula must apply for acceptance into the POC by the end of the first semester or quarter of their sophomore year.

The subject matter of the freshmen and sophomore year is developed from an historical perspective and focuses on the scope, structure, and history of military power with an emphasis on the development of air power. During the junior and senior years, the curriculum concentrates on the concepts and practices of leadership and management, and the role of national security forces in contemporary American society.

In addition to the academic portion of the curricula, each student participates in a one-and-a-half-hour Leadership Laboratory each week. During this period the day-to-day



skills and working environment of the Air Force are discussed and explained. The Leadership Lab uses a student organization designed for the practice of leadership and management techniques.

Air Force ROTC offers two-, two-and-a-half, three-, and three-and-a-half-year scholarships on a competitive basis to qualified applicants. All scholarships cover tuition, lab fees, a flat rate allowance for books, plus \$100 tax-free monthly stipend. All members of the POC, regardless of scholarship status, receive the \$100 tax-free monthly stipend.

All Navy ROTC students must enroll in Naval Science 101: Naval Orientation and 102: Naval Ship Systems I in the freshman year, in Naval Science 201: Naval Ship Systems II and 202: Sea Power and Maritime Affairs in the sophomore year, and in Naval Science 301: Navigation, 302: Naval Operations, 401: Naval Resource Management I, and 402: Naval Resource Management II in subsequent years. Those desiring commissions in the U. S. Marine Corps must enroll in Naval Science 303: Evolution of Warfare and 404: Amphibious Warfare, but are not required to take 301, 302, 401, or 402.

NROTC Scholarship Program students must complete work in calculus, physics, science electives, political science, and languages. Students should check with their naval science instructors to determine which courses fulfill these requirements. In addition, all naval science students are required to attend a two-hour, non-credit Naval Professional Laboratory where military drill, physical fitness, and leadership are emphasized.

Degree credit allowed towards the Bryn Mawr A.B. for AFROTC or NROTC courses is determined on an individual basis. For further information about the AFROTC cross-enrollment program, scholarships, and career opportunities, contact the Professor of Aerospace Studies, AFROTC Det 750, St. Joseph's University, Philadelphia, PA 19131, (215) 879-7311. For further information about the NROTC cross-enrollment program, scholarships, and career opportunities, contact Captain Russell K. Schulz, USN, Director of the Naval Officer Education Program, University of Pennsylvania, Department of Naval Science, 417 Hollenback Center, 3000 South Street, Philadelphia, PA 19104-6399. Interested students should also consult their dean.

### **Summer Programs in Languages**

*Institut d'Etudes Françaises d'Avignon*: Bryn Mawr College offers a summer program of intensive work in significant

aspects of French culture. The program is open to men and women students from other colleges and from Bryn Mawr. Certain of the courses carry graduate credit. The *Institut* director and faculty members are French professors teaching in colleges and universities in the United States and Europe. Classes are held in the Palais du Roure, and the facilities of the Médiathèque Ceccano are available to the group. Students live with families in Avignon. Applicants for admission must have strong academic records and have completed a course in French at a third-year college level or the equivalent. For detailed information concerning admission, curriculum, fees, academic credit, and scholarships, students should consult Michel Guggenheim, professor of French.

*Centro de Estudios Hispánicos en Madrid:* Bryn Mawr also offers a summer program of intensive work held in Madrid. The program, under the direction of the Department of Spanish, is open to men and women students from other colleges and from Bryn Mawr. The instructors are members of college and university staffs familiar with teaching standards and practices in this country. Courses are offered both for the student whose interest is Spain and for the student who wishes to specialize in Latin America. Students live with Spanish families. All participate in study trips and attend an excellent series of carefully planned lectures and cultural events. Applicants must have strong academic records and must have completed the equivalent of three years of college-level Spanish. A small number of scholarships are available each year. For information students should consult Enrique Sacerio-Garí, associate professor of Spanish. The *Centro* was made possible by a grant from the Henry L. and Grace Doherty Charitable Foundation of New York.

The College also participates in summer programs in Florence, Italy (jointly sponsored with the University of Pennsylvania), and at the Pushkin Institute, Moscow, U.S.S.R. For further information, students should consult the Department of Italian about the Florence program and the Department of Russian about the Moscow program.

### **The Junior Year Abroad**

Qualified students may apply for admission to Junior Year Abroad programs or foreign universities for study abroad that have the approval of their major departments and the Curriculum Committee. Applicants must have excellent academic records and must give evidence of competence in the language

of the country in which they plan to study. At least two years of study at the college level are necessary to provide adequate language preparation.

Juniors who study abroad are not only language majors; they often include majors in history of art, history, or the social sciences. In recent years students have studied in Great Britain, France, Spain, Germany, Italy, Switzerland, Greece, the Soviet Union, Israel, Japan, China, Canada, Kenya, Nigeria, Mexico, and Columbia. All students who plan to study abroad should consult Allison Noyes, assistant director of student services, for information about approved programs, and Dean Behrend and the chair of their major department to arrange for transfer credit and to be sure that their work is coordinated with the general plan for the major subject.

Some financial aid is available to support study abroad. Students should consult their dean for further information and for instructions on the application process.

*The Intercollegiate Center for Classical Studies in Rome:* The center is maintained by a cooperating group of colleges and universities, of which Bryn Mawr is a member. Students majoring in Latin, Greek, or archaeology who meet the center's entrance requirements, may apply for admission for one or both semesters of the junior year. The center's curriculum includes courses in Greek and Latin literature, ancient history, and archaeology, and provides for the study of Italian.

## COURSES OF STUDY 1989-90

### Key to Course Numbers

- 001-099 elementary and intermediate courses. With the exception of Greek 001 and Russian 001, these courses are not part of the work in the major.
- 100-199 first-year courses
- 200-299 second-year courses
- 300-399 advanced courses in the major
- 400-499 special categories of work (e.g., 403 for a unit of supervised work)

Some of the courses listed together (e.g., French 001, 002) are full-year courses. Students must complete the second semester of a full-year course in order to receive credit for both semesters. Exceptions to this rule must be approved by the professor. *Credit is never given for one semester of an elementary language course.* Full-year courses are indicated by the phrase "both semesters are required for credit" in the course description.

Other courses listed together (e.g., History 111, 112) are designed as two-semester sequences, but students receive credit for completing either semester without the other.

A semester course carries one unit of credit and is the equivalent of four semester hours, six quarter hours. Some courses carry one-half unit each semester; students should check the course guide for unit listing.

Selected Haverford College courses are listed in this catalogue when applicable to Bryn Mawr programs. Consult the Haverford College catalogue for full course descriptions. Students should consult their dean or major adviser for information about Swarthmore, University of Pennsylvania, and Villanova University courses pertinent to their studies. Catalogues and course guides for Swarthmore College, the University of Pennsylvania, and Villanova University are available in the Dean's Office.

Every effort has been made in the following pages to describe the scope of each department's program and the frequency with which courses are offered. For the most up-to-date information on times of offerings and instructors, students should consult the Bryn Mawr-Haverford Course Guide, which is published at the time of pre-registration for the following semester. Each course description includes information about prerequisites and cross listing, where applicable. In parentheses following the description are included



the instructor or instructors; the College requirements the course meets, if any; and wherever possible, information about when the course is offered.

### **Key to Phrases Describing Requirements**

*Math Readiness:* indicates that the course has as a prerequisite the level of preparation in mathematics demonstrated by passing part 0 of the Bryn Mawr College diagnostic test in math or by a score of at least 620 on the math SAT.

*Quantitative Skills:* indicates courses that meet the requirement for work in mathematics or quantitative skills.

*Division I:* indicates courses that meet part of the divisional requirement for work in social science.

*Division III:* indicates courses that meet the laboratory science part of the divisional requirement for work in the natural sciences and mathematics.

*Division II:* indicates courses that meet part of the divisional requirement for work in natural sciences or mathematics, but not the laboratory science part of the Division II requirement.

*Division III:* indicates courses that meet part of the divisional requirement for work in the humanities.

## **ANTHROPOLOGY**

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### *Professors:*

Jane C. Goodale, Ph.D., *Chairman*

Carol P. MacCormack, Ph.D., *Katharine E. McBride Professor*

Philip L. Kilbride, Ph.D.

Judith R. Shapiro, Ph.D., *Academic Deputy to the President*

### *Professor of Linguistics in German and Anthropology:*

Nancy C. Dorian, Ph.D.

### *Associate Professor:*

Richard S. Davis, Ph.D. (on leave Semester II, 1989-90)

### *Assistant Professor:*

Jean DeBernardi, Ph.D.

The department has two objectives. The first is to introduce the liberal arts student to the discipline of anthropology: its

aims, methods, theories, and contributions to an understanding of the nature of human culture and society; the second is to provide the major in anthropology, in addition to the above, a firm understanding of the basic concepts and history of the discipline through examination of theoretical works and intensive studies in the ethnography and prehistory of several world areas. Laboratory experience is provided in a number of courses.

Requirements in the major subject are 101, 102, 303, 398, 399; one of the following topical core courses: 201, 202, 203, 205 (at Haverford); one of the following archaeological courses: 220, 225, 230, 235, 309; one of the following ethnographic area courses: 211, 250, 253, 260; one of the following linguistics courses: General Studies 240; 307, 308, 310, 312, 313; one additional course from any of the topical, archaeological, ethnographic area, or linguistics offerings above, or any advanced topical course in anthropology, subject to the approval of the major adviser.

Qualified students may do departmental honors in their senior year. Units of independent work may be taken with the approval of the instructor in the department. Students may also take a combined A.B.-M.A. degree in anthropology.

Requirements for a minor in anthropology are 101, 102, 303; one of the following topical core courses: 201, 202, 203, 205 (at Haverford); any one course in anthropological archaeology, linguistic anthropology, or a course especially linked to the student's major (for example, psychological anthropology for a psychology major); one ethnographic area course or a topical course with a heavy emphasis on ethnographic materials.

Students may elect to do part of their work away from Bryn Mawr. Courses that must be taken at Bryn Mawr include 101, 102; the 200-level topical core courses; 303, 398, and 399.

**101, 102. Introduction to Anthropology** The place of humans in nature, human evolution, and the history of culture to the rise of early civilizations in the Old and New Worlds; forms of culture and society among contemporary peoples. (Staff, Division I)

**106. Sex, Culture, and Society** Introduction to the anthropological study of sex differences; the social roles of women and men and the cultural meanings of gender in a range of different societies. Theoretical perspectives on similarities and

differences in gender patterning are examined. (Goodale, Division I; not offered in 1989-90)

**201. Introduction to Cultural Analysis** The historical study of theoretical approaches within anthropology which have systematically applied the culture concept. Evolutionary, psycho-cultural, ecological, and symbolic paradigms are emphasized. Prerequisite: Anthropology 102 or consent of instructor. (Kilbride, Krausz, Division I)

**202. Introduction to Social Organization** An introduction to basic concepts and methods in the study of social organization and social classification. Major ethnographic and theoretical contributions in social anthropology are examined. Prerequisite: Anthropology 102 or consent of instructor. (Goodale, Division I)

**203. Introduction to Cultural Ecology** The relationship of humans and their environment; culture as an adaptive mechanism and a dynamic component in ecological systems; cultural ecological perspectives compared with other theoretical orientations in anthropology. Prerequisites: Anthropology 101, 102, or consent of instructor. (Davis, Division I; not offered in 1989-90)

**206. Conflict and Conflict Management: A Cross-Cultural Approach** Differences among societies in the level of internal and external conflict and in methods of settling disputes. Explanations for conflict in and among traditional societies are considered as ways of understanding political conflict and dispute settlement in the United States and other contemporary settings. (Ross, Division I; cross listed as Political Science 206)

**210. Medical Anthropology** A cross-cultural analysis of the relationship of culture and health focusing on anthropology and clinical practice, anthropology and American health care, and anthropology and the control of tropical diseases, emphasizing a third world orientation. Prerequisite: Anthropology 102 or consent of instructor. (MacCormack, Division I)

**211. African American Culture and Community** An examination of the social development and functioning of the African-American community, a unique pattern of experiences in American society. Topics include African heritage, slavery, Reconstruction, urbanization, changing family and

community organization, the struggle for civil rights, and cultural developments. (Kilbride, Washington, Division I; cross listed as Sociology 211)

**213. Introduction to Linguistic Analysis** An introduction to the scope and methods of linguistic inquiry; combining study of different subfields of linguistics (phonetics, phonology, morphology, syntax, semantics, and pragmatics) with analysis of a non-Western language, Swahili, studied primarily through direct work with a native speaker of the language. (DeBernardi, Division III)

**219. Chinese Society and Culture** An examination of Chinese society and culture through the study of ethnographic writings, with readings in Chinese history and literature. Topics include traditional social forms, including family, lineage, and voluntary association; Chinese religion as both precept and practice; patterns of reform and revolution in late traditional China and transformations of Chinese social forms since 1949. (DeBernardi, Division I; not offered in 1989-90)

**220. Archaeological Methods of Analysis** An examination of of techniques and theories archaeologists use to transform archaeological data into statements about patterns of prehistoric cultural behavior, adaptation, and culture change. Theory development, hypothesis formulation, gathering of archaeological data and its interpretation and evaluation are discussed and illustrated by examples; theoretical debates current in American archaeology are reviewed; and the place of archaeology in the general field of anthropology is discussed. Prerequisite: Anthropology 101 or consent of instructor. (Davis, Division I; not offered in 1989-90)

**221. Chinese Popular Religion** An exploration of Chinese religious thought and practice in the nineteenth and twentieth centuries. Topics include the relationship of power and the sacred in late traditional Chinese society, millennial rebellion and the contest for the mandate of heaven, and popular religion in contemporary Chinese communities, including the festival cycle, shamanism, ritual, and magic. (DeBernardi, Division I; not offered in 1989-90)

**225. Old World Prehistory** A study of the Paleolithic archaeological record from Europe, Asia, and Africa, focusing on the dynamics of cultural evolution; cultural and natural



transformations leading to the Neolithic Revolution are also examined. Laboratory work with prehistoric materials is included. Prerequisite: Anthropology 101 or consent of instructor. (Davis, Division I)

**230. North American Prehistory** A study of North American archaeology and culture history; introducing methods and theory in archaeology and in the analysis of archaeological data. Laboratory work may be included. Prerequisite: Anthropology 101 or consent of instructor. (Division I; not offered in 1989-90)

**240. Traditional and Pre-Industrial Technology** An examination of several traditional technologies, including chipped and ground stone, ceramics, textiles, metallurgy (bronze), simple machines, and energy production; emphasizing the physical properties of various materials, production processes and cultural contexts both ancient and modern. Weekly laboratory on the production of finished artifacts in the various technologies studied. Prerequisite: consent of instructor. (Davis, Division I; not offered in 1989-90)

**245. Technology Transfer in Developing Countries** A study of the significance of technology transfer in the development process, emphasizing the role of technology in economic and social change, 'appropriate' technology as locally understood, and the interaction of economic and cultural factors. Topics include birth control technology, mass media, mass production, and multi-national corporations; case studies from Africa and East Asia. (Kilbride, Division I; not offered in 1989-90)

**250. Oceania: Topics in Melanesian Ethnography** An intensive study of selected Melanesian cultures and societies emphasizing politics, law, economics, sex roles and identities, magic, religion, cultural dynamics, and political development. Prerequisite: Anthropology 102 or consent of instructor. (Goodale, Division I)

**253. Africa: Sub-Saharan Ethnology** A study of selected sub-Saharan societies and cultures, illustrating problems in ethnography. Prerequisite: Anthropology 201, 202, 203, or 205, or consent of instructor. (Kilbride, Division I)

**260. Native Cultures of South America** Comparative study of Indian societies of lowland South America, focusing on

kinship, marriage, sex roles, and ritual; attention is also given to the current situations of native peoples in South America. Prerequisite: Anthropology 201, 202, 203, or 205, or consent of instructor. (Shapiro, Division I; not offered in 1989-90)

**261. Peoples and Cultures of Southeast Asia** A general introduction to peoples and cultures of Southeast Asia, including its geography, history, and diverse cultures. Specific aspects of Southeast Asia cultures, such as Thai matriliney, Balinese kinship, the peasant economy and peasant revolution in Vietnam, the politics of the heroin trade are also covered. (DeBernardi, Division I)

**265 Human Evolution** The position of humans among the primates, processes of biocultural evolution; the fossil record and contemporary distributions of varieties of humans. Prerequisite: Anthropology 101 or consent of instructor. (Davis; not offered in 1989-90)

**295. Anthropology of Religion** An exploration of the major theoretical approaches toward religion, including the study of specific ethnographic material. Critique of "religion" as a cross-cultural comparative concept. (DeBernardi, Division I; not offered in 1989-90)

**303. Cultural Theory** The major theoretical trends in social and cultural anthropology, including evolutionism, historical particularism, functionalism, structuralism, and symbolic anthropology. The relationship of anthropology to the other social sciences is explored; the significance of the culture concept and anthropology's dual goals of description and explanation is emphasized. Prerequisites: Anthropology 201, 202, 203, or 205, and at least one additional anthropology course at the 200 or 300 level. (Staff)

**307, 308. Language in the Social Context** Human versus animal communications; childhood language acquisition; bilingualism; regional dialects; usage and the issue of "correctness"; social dialects; speech behavior in other cultures. (DeBernardi; not offered in 1989-90)

**309. Origins of Civilization and the State** The archaeological evidence and theoretical explanations for the emergence and development of complex societies in the New and Old Worlds; emphasizing the archaeological records of Mesopotamia and Mesoamerica, also including Egypt, the Indus Valley,

North China, and Peru. Alternative theories of state formation are reviewed. (Davis, Ellis; cross listed as Classical and Near Eastern Archaeology 309; not offered in 1989-90)

**310. Introduction to Linguistic Categories** Standard descriptive linguistic units such as the phoneme and the morpheme, and morphological typology and word-order typology, are introduced; grammatical categories commonly invoked in language study but seldom analyzed—such as gender, case, and tense, and the different means of expressing them in a variety of languages—are emphasized. (DeBernardi; not offered in 1989-90)

**311. The Evolution of Spoken and Written Language** An interdisciplinary investigation of the development of human language; topics include philosophical speculations on the origins of language, the evolution of writing systems, the emergence of 'new languages,' and the shift from oral to written culture. (DeBernardi)

**313. Linguistic Anthropology** An investigation into the semiotic, social, and cultural characteristics of language. Descriptive material drawn from a number of different societies is combined with core theoretical texts in modern structural linguistics, anthropological language and culture studies, and sociolinguistics. Prerequisite: at least one course in either anthropology or linguistics or consent of instructor. (DeBernardi)

**315. Chinese Language in Society** An introduction to the basic principles of social linguistics through the study of a single, albeit very complex case. Topics include linguistic diversity in China and the importance of the national language, special characteristics of the Chinese written language, "Whorfian" views on the impact of the structure of the language on Chinese thought, and thought reform and political rhetoric in post-revolutionary China. (DeBernardi; not offered in 1989-90)

**317. Phonetics and Phonemics** Speech sounds and their organization into phonological systems. Topics include general possibilities for producing sounds in the human vocal tract, and the variety of ways in which the same speech sound can be woven into a system of phonological contrasts. One hour of lecture a week and an additional hour, in smaller



groups, of training in hearing and producing speech sounds. Problems in phonemic analysis are presented and others assigned, in the latter half of the course. (DeBernardi; not offered in 1989-90)

**330. Comparative Hunters and Gatherers** An intensive study of Australian Aboriginal peoples, Bushmen of the Kalahari of Southern Africa, and others who today subsist primarily by utilizing resources extracted from their environment through hunting and gathering technologies. Topics include human/land relationships (technological, legal, and religious), independence and interdependence of social groupings, ethnoepistemology, and the theoretical importance of hunters and gatherers to anthropological thought today. Prerequisite: any 200-level anthropology course or consent of instructor. (Goodale, Davis; not offered in 1989-90)

**340. Psychological Anthropology** Approaches to an understanding of culture through study of cultural factors in the development of human personalities and individual experiences in different socio-cultural settings. Prerequisite: a 200-level anthropology course or consent of instructor. (Kilbride; not offered in 1989-90)

**350. The Anthropology of Gender** An intensive comparative ethnographic investigation into gender differentiation and gender hierarchy, emphasizing both social structural and symbolic dimensions, with attention to the implications of gender studies for anthropological theory and method. Prerequisite: a 200-level ethnographic area course or consent of instructor. (Shapiro, Goodale; not offered in 1989-90)

**351. Symbolic Anthropology** Various forms of the symbolic expression of cultural values and ethos, including art, music, oral literature, and ritual. Significant contributions to the cross-cultural study of symbolism are examined. Prerequisite: a 200-level ethnographic area course or consent of instructor. (Shapiro, Goodale; not offered in 1989-90)

**398, 399. Senior Conferences** The topic of each seminar is determined in advance in discussion with students. Sections normally run through the entire year and have an emphasis on field research and analysis. Class discussions of work in progress and oral and written presentations of the analysis and results of research form the basis of evaluation for the



year. Seminars are: Ethnographic Methodology, Archaeological Methodology. (Staff)

**403. Supervised Work** Independent work is open usually to junior and senior majors who wish to work in a special area under the supervision of a member of the faculty and is subject to faculty time and interest. (Staff)

Graduate seminars in the Department of Anthropology are open to qualified undergraduates with the consent of the instructor.

Haverford College offers the following courses in anthropology:

105. Oedipus Complex

106. Shamanism and Schizophrenia

205. Social Anthropology

234. History and Sociology of Colonialism

255. Anthropology of Religion

355. History, Theory, and Method in Social Anthropology

357. Political Anthropology

358. Economic Anthropology

## **ARTS PROGRAM**

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*Professor of Music:*

Isabelle Cazeaux, Ph.D., *Alice Carter Dickerman Professor*

*Associate Lecturer:*

Ava Blitz, M.F.A., *Fine Art*

*Lecturers:*

Christopher Davis, A.B., *Creative Writing*

Linda Caruso Haviland, M.Ed., *Director of Dance* (on leave,  
1989-90)

Mark Lord, M.F.A., *Director of Theater*

Carmen Slider, M.F.A., *Designer and Technical Director of Theater*

Jane Wilkinson, Ph.D., *Director of the Arts Program*

*Director of the Haverford-Bryn Mawr Choral Program:*

Regina Gordon, M. Music

*Director of the Haverford-Bryn Mawr Orchestral Program:*

James E. Ross, B.A.

Courses in the arts are designed to prepare students who might wish to pursue advanced training in their fields and for those who want to broaden their academic studies with work in the arts that is conducted at a serious and disciplined level.

## CREATIVE WRITING

Courses offered in creative writing within the Arts Program are designed to teach technique and form from a professional point of view. These workshops are designed both for students intending to make their careers in writing and for those who wish to enlarge their appreciation of the writing arts.

**260. Writing Short Fiction** Comparative analysis of published texts as models and sources, and the production of four or five stories. Reworking material on the basis of workshop criticism and individual conference with the instructor is emphasized; each story may be a rewriting of the one before. Students must bring a sample of fiction or poetry to the first class meeting. Prerequisite: demonstrated ability. (Davis, Division III)

**261. Writing Poetry** The reading of poetry and the principles of prosody, emphasizing discipline and criticism in the reading and writing of poetry. Work is produced for each class meeting (successive drafts as assignments are encouraged), and students report on their reading of published poems. Generally one assignment is in translation; another crosses to a graphic art as a means of altering viewpoint. Work is analyzed in class and in private conference. (Davis, Division III)

**262. Beginning Playwriting** An introduction to the theater by study of the one-act play and its production. Written work

consists of two one-act plays and a notebook of critical comments. (Division III)

**263. Feature Journalism** The practice of feature journalism including field research, interviews, and editing techniques including successive drafts of each article. Students work on several shorter documented features or one or two major articles during the semester. A course goal for each student is a publishable feature by semester's end. Students must bring a sample of nonfiction (not work done for a course), fiction, or poetry to the first class meeting. Prerequisite: publication or demonstrated ability. (Davis, Division III)

**360. Advanced Fiction Writing** Intended for students who have indicated by means of work that they are considering a career in writing and willing to submit to the discipline of constant reworking of promising material. A text provides a basis for class discussion; student efforts are analyzed in class and in conference. One goal of the semester's work is the production of a publishable piece of short fiction. Students must bring a brief sample of fiction or poetry to the first class meeting. Prerequisite: Arts Program 260 or consent of instructor. (Davis)

**362. Advanced Playwriting** Advanced study of playwriting techniques including adaptation for film, radio, and television. One long script and a course notebook are required. Prerequisite: Arts Program 262 or consent of instructor.

**364. Novel Writing** An exploration of the novel form from a craftsman's point of view. Students must have work in progress or a reasonably clear idea of the novel they want to write, although both may be altered in class and/or in conference. In some cases students recast and rewrite constantly; in others students move straight ahead through the work with virtual independence. The text is one of the instructor's novels so that the inner workings of the creative process may be made available. Each student is expected to produce a substantial portion of a novel plus a useful outline to go on with independently. Prerequisite: Arts Program 360, a novel in progress, or proof of strong interest and ability. (Davis)

**403. Supervised Work**

Haverford College offers the following course in creative writing:

**191. Poetry Writing**

**DANCE**

The dance program provides courses which enable students to experience and understand dance both as an art and a humanity, and it provides varied opportunities in technique, theory, and performance for students at all levels of skill, interest, and commitment. A full range of classes in modern, ballet, and jazz technique are offered as well as courses in performance, composition, and theory.

The following courses in composition and theory are offered for academic credit:

**140. A History of Twentieth-century Dance** The study of the development of contemporary forms of dance with emphasis on theater forms within the broader context of Western art and culture, including lecture, discussion, and audio-visual materials. (Caruso Haviland, Division III; not offered in 1989-90)

**142. Dance Composition I** Analysis of and practice in the basic elements of dance making, with reference to both traditional and contemporary post-modern choreographic approaches. Theory and experience in generating dance material and in structuring movement forms beginning with simple solo phrases and progressing to more complex organizational units. (Division III)

**240. Approaches to Dance: Themes and Perspectives** An introduction to dance as a performance art and a humanity; consideration of dance aesthetics, history, and criticism; and areas such as ethnology, therapeutic applications, educational structures, and the creative process of choreography. Focus on the significance and the potential of the creative, critical, and conceptual processes of dance. The course includes lecture, discussion, film video, and guest lecturers. (Caruso Haviland, Division III; not offered in 1989-90)

**242. Dance Composition II** A continuation of Dance Composition I with emphasis on construction of finished choreography for solo dances and methods of study for group compo-



sition. Related production problems are considered. (Division III)

**342. Advanced Choreography** Independent study in choreography under the guidance of the instructor. Students are expected to produce one major choreographic work and are responsible for all production considerations.

**343, 344. Advanced Dance Technique** For description see **Dance Technique** and **Dance Performance** below.

**403. Supervised Work** Research in a particular topic of dance under the guidance of an instructor, resulting in a significant final paper or project.

### **Dance Technique**

Dance technique classes are offered for physical education credit; advanced levels of modern dance and ballet are offered for elective academic credit.

The *Modern Dance* classes present movement experiences designed to develop dance skills and concepts as a basis for performance or for appreciation of the forms of modern dance. Introduction to Modern Dance, Level I is intended for those with minimal experience in modern dance or students who have had less than two years of ballet or a comparable form. The levels progress through II and III to Advanced Modern, Level IV, which has a prerequisite of two or more years of modern dance. Progression through the level sequence is by consent of instructor.

The *Ballet* classes are designed to develop understanding of and skill in the ballet vocabulary as a basis for performance or appreciation of the classical ballet form. Elementary Ballet, Level I is designed for those with minimal or no experience in ballet, and the sequence progresses through Levels II and III to Level IV, Advanced Ballet, which has a minimum prerequisite of two years of ballet.

The *Jazz* classes present movement experiences designed to introduce students to those particular movement isolations, overall movement qualities, and rhythmic structures which characterize jazz dance. Levels II and III present more demanding choreographed phrases or sections of dances which are designed to extend the students' range of technical ability and sensitivity to the form.

### **Dance Performance**

The *Dance Ensemble* is designed to offer students significant opportunities to develop dance technique, particularly in relationship to dance as a performance art. Reconstructed dance classics or original works choreographed by faculty or guest choreographers are rehearsed and performed. This course, which is open to intermediate and advanced level dancers by audition or consent of instructor, may be taken for elective academic credit or for physical education credit. Other *performance workshops* in ballet and jazz receive one term of physical education credit.

## FINE ARTS

The Fine Arts Program at Bryn Mawr is coordinated with and complementary to the Fine Arts Program at Haverford College (see page 148), courses on either campus being offered to students of either college with the approval of the respective instructors. Prospective fine arts majors and minors should plan their curricula with the major instructor. Throughout their progression through the fine arts courses, these students should strive to develop a portfolio of artwork showing strength and competence and a sense of original vision and personal direction appropriate for a major or minor candidate.

Fine arts majors are required to concentrate in either painting, sculpture, photography, or printmaking. Course requirements include Fine Arts 101 (four one-half semester courses that must be in different areas); two 200-level courses outside the area of concentration; two 200-level and one 300-level course within the area of concentration; senior conference; and three history of art courses to be taken at Bryn Mawr.

Bryn Mawr students may minor in fine arts by taking six units of work in the field.

Two seven-week foundations courses provide an introduction to printmaking. Both are recommended, although not required, as each covers different material.

**120. Foundation Printmaking: Relief Printing** A seven-week course covering various techniques and approaches to the art of the woodcut and the linocut, emphasizing the study of design principles and the expressive potential of the medium to create a personal visual statement. (Blitz, Division III)

**121. Foundation Printmaking: Silkscreen** A seven-week

course covering techniques and approaches to the art of silkscreen, including photo-silkscreen and the creation of art posters, emphasizing color and design, and the expressive potential of the medium to create a personal visual statement. (Blitz, Division III)

**222. Basic Drawing: Works on Paper** An introduction to the materials and techniques of drawing and works on paper, including graphite, pen and ink, brush and ink, charcoal, pastel, and watercolor, with focus on learning to "see" creatively, drawing from various subjects such as still life, landscape, interior, and portrait. Drawing from the model is not emphasized. (Blitz, Division III)

**223. Watercolor: Works on Paper** An introduction to the techniques and application of transparent and opaque watercolor as well as mixed-media works on paper, emphasizing the creative and expressive use of color, form, dynamics, and composition. Prerequisite: college drawing course or consent of instructor based on portfolio showing drawing competence. (Blitz, Division III)

**224. Intaglio Printmaking (Etching)** Various techniques and approaches to intaglio printmaking, including etching (soft and hard ground), aquatint, multi-plate color printing, engraving, and monotypes. Prerequisite: a college drawing course, or strong evidence of drawing ability (by portfolio), or consent of instructor. Arts Program 120, 121 are recommended but not required. (Blitz, Division III)

**225. Printmaking: Materials and Techniques** Further development of their creative ideas for students who have had the foundation sequence of Relief and Silkscreen. (Blitz, Division III)

**326. Experimental Studio: Lithography** Introduction to the concepts and techniques of black and white and color lithography. The development of a personal direction is encouraged. Prerequisites: a college drawing course; or Arts Program 120, 121; Arts Program 224; or consent of instructor. (Blitz)

**398, 399. Senior Conference** Independent study of a selected issue of interest to the student, culminating in a portfolio of works on paper, (prints, drawings, and/or watercolors) suitable

for exhibition. This course provides support for the preparation of the major student's final show. Work presented in the final examination is judged and graded by a jury consisting of the Bryn Mawr instructor, members of the Haverford Fine Arts faculty, and a member of the Department of History of Art.

**403. Supervised Work** A workshop for advanced students to develop their ideas for works on paper in the technique(s) of their choice, including relief printing, silkscreen, intaglio (etching), lithography, drawing, painting on paper (aquamedia), or any combination of the above. A cohesive body of work (portfolio) reflecting a specific direction is created by the end of the course. Prerequisites: a basic competence in technical skills in the area(s) of the student's choice, presentation of a portfolio of previous work, and consent of instructor. (Blitz)

For a listing of the Haverford course offerings in Fine Arts, see page 149.

## MUSIC

The major in music is offered at Haverford. For its requirements, see Music at Haverford (page 218). Bryn Mawr offers the following courses in the history of music:

**201. Romantic Music** An historical study of nineteenth-century music, its "romantic" sources in the late eighteenth century, and prolongations into the twentieth. (Cazeaux, Division III)

**202. Debussy** A view of Debussy, his times, his milieu, and his contributions to musical life in France and elsewhere. (Cazeaux, Division III)

**207. Musical Criticism** An historical study of writings about music from Plato to the twentieth century, including various views on principles and problems of musical judgment, with practical exercises in journalistic and other types of criticism. (Cazeaux, Division III)

**302. Medieval and Early Renaissance Music** An historical study of sacred and secular monophony and polyphony to ca. 1521. (Cazeaux)



**303. Late Renaissance and Baroque Music** An historical study of vocal and instrumental music from the early sixteenth to the mid-eighteenth centuries. (Cazeaux)

**307. Opera and Music Drama** An historical study of music in drama from the Middle Ages to the present. (Cazeaux)

**309. Bibliography and Research in Music** A study of books and book production with particular attention to reference and research materials in music. Students receive assistance with research methods suitable for individual projects. (Cazeaux)

### **403. Supervised Work**

#### **Performance**

The following organizations are open to students of both colleges. For information about academic credit for these groups and for private vocal or instrumental instruction, see Music at Haverford (page 218).

The *Haverford-Bryn Mawr Orchestra* is open by audition to members of the colleges and the surrounding community. Rehearsals are held twice weekly and concerts are given on both campuses two or three times per semester. Repertory includes standard and contemporary works.

The *Haverford-Bryn Mawr Chamber Singers* is a small auditioned group which demands a high level of vocal ability and musicianship. The group performs regularly on both campuses and in the Philadelphia area. Annual tours are planned within the United States and abroad.

The *Haverford-Bryn Mawr Chorale* is a large auditioned chorus which gives concerts with orchestra each year on both campuses. Recent repertory included: Bach's Contata No. 140, Haydn's *Nelson Mass*, Beethoven's *Ninth Symphony*, and Carl Orff's *Carmina Burana*.

*Ensemble Groups* are formed within the context of the Chamber Music Seminar (Music 215). See Music at Haverford (page 222).

## **THEATER**

The curricular portion of the Bryn Mawr and Haverford Colleges theater program focuses upon the point of contact between creative and analytic work. Courses combine theory

(reading and discussion of dramatic literature, history, and criticism) and praxis (creative exercises, scene study, and performance) in an effort to provide viable theater training within a liberal arts context.

Requirements for the minor in Theater Studies are six units of course work, three required (Arts Program 150, 251 and 252) and three elective. Students must consult with the theater faculty to ensure that the necessary areas in the field are covered.

**150. Introduction to Theater** An introduction to techniques of reading and interpreting dramatic texts as models for performance, with consideration of performances as an occasion for critical writing. (Lord, Division III)

**250. Twentieth-century Theories of Acting** An introduction to twentieth-century theories of acting focusing on the work of Stanislavski, Brecht, and Grotowski and emphasizing the intellectual, aesthetic, and sociopolitical factors surrounding the emergence of each director's approach to the study of human behavior on stage. Various theoretical approaches to the task of developing a role are applied in workshop and scene study. (Lord, Division III; not offered in 1989-90)

**251. Fundamentals of Acting** An introduction to the fundamental elements of acting (scene analysis, characterization, improvisation, vocal and gestural presentation, and ensemble work) through the study of scenes from significant twentieth-century dramatic literature. Students present three to five scenes in class; a minimum of six hours a week of outside rehearsal and a five-page character analysis are required in conjunction with each scene. (Lord, Division III)

**252. Fundamentals of Technical Theater Production** The basic principles and practices necessary for the construction and execution of a theater and/or dance production, including media and materials commonly used in the scene shop, tools and other equipment, and practical construction techniques. (Slider, Division III)

**351. Acting II** A continuation of Fundamentals of Acting with increased focus on methods of characterization appropriate to the modern canon; the naturalistic/realistic literature of the late nineteenth and early twentieth centuries (Strind-

berg, Ibsen, Chekhov, Shaw), followed by the anti-realistic literature of the mid-twentieth century. (Lord)

**354. Shakespeare on the Stage: 1590 to the Present** An exploration of Shakespeare's texts from the point of view of the performer. An historical survey of the various approaches to producing Shakespeare from Elizabethan to contemporary times, with intensive scenework culminating in on-campus performances. (Lord)

**355. Gender and Theater** A seminar and performance workshop on questions of gender as they appear in dramatic literature and theatrical production. Topics for discussion, reading, and scenework include the works of Ibsen and Strindberg, Genet, Gertrude Stein, Lacan, Artaud, Joe Orton, women in the avant-garde, and recent work in performance art. Theorists and practitioners to be studied include Judith Malina, Gertrude Stein, Brecht, Artaud, Derrida, and Irigaray. (Lord; not offered in 1989-90)

**359. Directing for the Stage: Theory and Praxis** A semiotic approach to the basic concepts and methods of stage direction. Topics explored through readings, discussion, and creative exercises include directorial concept, script analysis and research, stage composition and movement, and casting and actor coaching. Students rehearse and present three major scenes. (Lord)

#### **403. Supervised Work**

##### **Performance**

A variety of opportunities to act and assist in technical theater are available in the two College community. Students can participate in the theater program's two mainstage productions, in the Student Theater Company's festivals of one-acts, and in the annual student directed full-length play or musical which is jointly sponsored. Student written plays are regularly presented in full stage productions or informal readings. All auditions are open and casting is frequently blind to race and sex.

The following courses in Dramatic Literature are offered. For course descriptions, see the relevant department:

**English 221, 222. English Drama to 1642**

- English 225. Shakespeare
- English 226. A Survey of the Shakespearean Canon
- English 286. The Language of Drama
- English 326. Theater of Ben Jonson
- English 344: Theater and Society: 1600-1800
- French 307. Marivaux and Giraudoux
- French 311. Le Théâtre du Vingtième Siècle
- German 203. Goethe and Schiller
- German 305. Modern German Drama
- German 309. History of the German Theater
- Greek 202. The Form of Tragedy
- Greek 215. The Ancient Stage
- Greek 302. Aeschylus and Aristophanes
- Italian 203. Italian Theater
- Spanish 308. Spanish Drama of the Golden Age

## ASTRONOMY

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At Haverford College

*Professors:*

Stephen Boughn, Ph.D.

R. Bruce Partridge, D.Phil., *Chairman*

The departmental work is designed to give students an understanding of and an interest in the universe in which they live, with emphasis upon the relation of astronomy to other fields of learning.



Requirements in the major subject are Astronomy 105b and 204b, Physics 115a, Haverford Mathematics 204b or 215a, 216b; four additional one-semester 300-level astronomy courses (one of which may be replaced by an advanced physics course); three written comprehensive examinations of three hours each. Bryn Mawr students may substitute Mathematics 101, 201, and 204 and Physics 101, 102 for the mathematics and physics requirements.

**101a. Astronomical Ideas** Fundamental concepts and observations of modern astronomy, such as the motions and surface properties of the planets, the birth and death of stars, and the properties and evolution of the universe, presented in an historical matrix. Little mathematics and no calculus are required. Not intended for students majoring in the natural sciences. No prerequisites. (Partridge)

**102b. Astrophysics of the '80s** One or more of the following recent advances in astronomy, such as cosmology (past, present and future properties of the universe as a whole), general relativity (the geometry of space-time, black holes, and gravity waves), high energy astrophysics (pulsars, radio galaxies, and quasars), and the search for extraterrestrial life. No calculus is required. Astronomy 101a or 105b is recommended but not required. (Partridge; not offered in 1989-90)

**105b. Introduction to Physics and Astronomy** Newtonian mechanics, conservations laws, gravitational fields, waves, and sound. Certain elementary methods of vector calculus are introduced. Examples illustrating physical laws are drawn from planetary and stellar astronomy. Lecture three hours, one laboratory a week. Prerequisites: Physics 100a or placement, and Mathematics 113a or equivalent. (Staff)

**204b. Introduction to Astrophysics** A survey of modern astrophysics; electromagnetic radiation, gravity, planets, stars, galaxies, interstellar matter, cosmology. Some laboratory work is required. Prerequisites: Physics 105b and 115a, Mathematics 114b or equivalent. (Partridge)

**311a. General Relativity** Development and application of the tensor calculus to a discussion of special and general relativity; review of observational and experimental evidence; consideration of problems of high energy astrophysics, particularly gravitational radiation, gravitational collapse, and black hole dynamics. Prerequisites: Mathematics 121 and

204b or equivalent, and Physics 115a; or consent of instructor. (Boughn)

**320b. Cosmology** Various theoretical models for the origin and evolution of the universe, including the "Big Bang" and "Steady State" models; review of the relevant observational evidence. The course ends with an attempt to construct a unified picture of the evolution of the universe and some of the systems within it. Prerequisites: Mathematics 113a and 114b or equivalent, and Physics 115a; or consent of instructor. (Partridge)

**332b. Extragalactic Astrophysics** A study of selected astrophysical topics including early universe, remote galaxies, radio sources, quasars, intergalactic space. Prerequisites: Astronomy 204b, Physics 115a, Mathematics 114b; or consent of instructor. (Boughn)

**340b. Radio Astronomy** Introduction to basic techniques of radio astronomy, including aperture synthesis, and the various mechanisms that give rise to line and continuum emissions at these frequencies; presentation of important observational results. Prerequisites: Mathematics 114b or equivalent, Astronomy 204b or equivalent, and Physics 115a. (Partridge)

**371b. Stellar Structure and Evolution** Review of the theory of stellar structure and discussion of the problem of stellar evolution on the basis of the theoretical and observational evidence. Prerequisites: Astronomy 204b, Mathematics 121 and 204b or equivalent, and Physics 214b. (Boughn)

**480. Independent Study** Prerequisite: consent of instructor. (Staff)

## BIولوجY

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*Professors:*

Robert L. Conner, Ph.D. (on leave, 1989-90)

Paul Grobstein, Ph.D., *Eleanor A. Bliss Professor and Chairman*

Anthony R. Kaney, Ph.D.

*Professor of Biology and Psychology:*

Margaret A. Hollyday, Ph.D.

*Associate Professors:*

Karen F. Greif, Ph.D. (on leave, 1989-90)

David J. Prescott, Ph.D.

*Lecturer and Laboratory Coordinator:*

Stephen L. Gardiner, Ph.D.

**Affiliated Faculty**

*Associate Professor of Chemistry:*

Kenneth G. Strothkamp, Ph.D.

The goals of the department are to introduce students to major concepts and issues in contemporary biology and to provide the opportunity for majors to learn, both by course work and independent research, the methods by which scientific knowledge is gained. Introductory courses are aimed at exposure to major areas of biology and to the experimental approaches by which we gain insight into function of cells and organisms, hereditary mechanisms, developmental processes, behavior, and evolution. Advanced courses examine important disciplines in greater detail by experimentation and readings of primary literature. A thesis, based on either one semester of library research or two semesters of laboratory research, investigates a single issue in depth, requiring synthesis of both hypotheses and experimental data.

Major requirements are General Biology 101, 102 or equivalent (advanced placement or exemption by consent of the department of one or both semesters); two of the following four courses, including at least one of the first two: Biology 201, 271, 202, 236; and two laboratory courses at the 300 level. Courses at a cooperating college, or in another Bryn Mawr department, may be substituted with the consent of the department.

Three additional courses in biology are required. One of the following options must be selected: (1) two seminar courses, plus one semester of supervised library research with thesis; (2) one seminar course, one advanced course, and one semester of supervised library research with thesis; (3) one seminar course and two semesters of supervised laboratory research with thesis. Required courses in other departments are Chemistry 211, 212; Organic Chemistry and Physics 101, 102; Introductory Physics.

Recommended courses in other departments are mathematics, statistics, computer science, physical chemistry, and physiological psychology, depending on area of specialization. To encourage students majoring in biology to acquire background in mathematics, physics, or chemistry, for specialization in mathematical biology, biophysics, or biochemistry, the total number of biology courses required may, with departmental consent, be reduced.

The Department of Biology participates with other departments in offering courses in neural and behavioral sciences. Students with interests in this area are encouraged to take an introductory course in psychology and may, with departmental approval, substitute appropriate behavioral sciences courses for one or more of the upper level biology requirements. It is hoped that an interdepartmental concentration in neural and behavioral sciences will be available in the near future to students majoring in either biology or psychology. The concentration will be administered by an interdepartmental committee. Students will have to satisfy requirements both of the major and of the concentration. The latter will require that students take courses outside their major department. Further details about the proposed concentration may be obtained from Paul Grobstein, professor of biology, or from Earl Thomas, professor of psychology.

Honors can be achieved in two ways: By maintaining a course average of 3.7 in the major and required allied subjects or by maintaining a grade point average of 3.2 in the major and required subjects and a grade of 4.0 for laboratory research and a paper based on the research. Selection for honors is made by the biology faculty.

All students are encouraged to undertake supervised research for one year. Those interested must speak with members of the faculty about the availability of projects. Each student normally carries out two semesters of research and writes a thesis based on the work. A number of summer awards are available for outstanding students who wish to begin their research the summer before their senior year. In special cases, research may be carried out at other institutions, with the approval of the department.

A minor in biology consists of six one-semester courses in biology. Courses in other departments may be substituted with departmental approval.

The department, in conjunction with the Department of Human Development, offers a certification program in secondary teacher education. For more information, see the description of human development in this catalogue.



**101. General Biology I** Topics include elements of biochemistry, cell biology, development, genetics, and evolutionary biology. Lecture three hours, laboratory three hours a week. (Gardiner, Grobstein, Kaney, Division III)

**102. General Biology II** Topics include physiology and behavior and the biology of organisms. Lecture three hours, laboratory three hours a week. Biology 101 is strongly recommended. (Gardiner, Grobstein, Division III)

**201. Genetics** A study of heredity and gene action. Lecture three hours, laboratory four hours a week. Prerequisites: Biology 101, 102 and Chemistry 103, 104. (Kaney, Division III)

**202. Neurobiology and Behavior** An introduction to the attempt to understand behavior in terms of the nervous system. A brief overview of fundamental principles of nervous system structure is followed by consideration of several topics chosen to illustrate how studies of the nervous system illuminate behavior and studies of behavior contribute to better understanding of the nervous system. Examples cover a wide variety of invertebrate and vertebrate species, including humans. Lecture three hours a week. Prerequisites: Biology 101, 102 or consent of instructor. (Grobstein, Division II)

**236. Evolution** The development of evolutionary thought, generally regarded as the most profound scientific event of the nineteenth century, its foundations in biology and geology, and the extent of its implications to many disciplines. Emphasis on the nature of evolution in terms of process, product, patterns, historical development of the theory, and its applications to interpretations of organic history. Lecture three hours a week. Prerequisite: A 100-level science course or consent of instructors. (Gardiner, Saunders, Davis, Schull, Yarczower)

**271. Developmental Biology** An introduction to embryology and developmental biology. Topics include gametogenesis, induction and determination, morphogenetic movements, organogenesis, pattern formation, regulation of gene expression, sex determination, and neural and behavioral development. Basic developmental problems are illustrated by consideration of observations on a wide range of organisms.

Lecture three hours, laboratory four hours a week. Prerequisites: Biology 101, 102 or consent of instructor. (Hollyday, Division II)

**301. Organismal Biology: Vertebrate Structure** A comparative study of major organ systems in different vertebrates. Similarities and differences are considered in relation to organ system function as well as in connection with evolutionary relationships among vertebrate classes. Laboratories include dissection, demonstrations, films, and an introduction to histological technique. Two three-hour lecture/laboratories a week. Prerequisites: Biology 101, 102 or equivalent, one 200-level biology course, and consent of the instructor. (Gardiner)

**303. Animal Physiology** An introduction to the study of animal function. Physical and chemical processes in tissues, organs, and organ systems which form the basis of the function of the organism. Homeostasis, control systems, and the structural bases of function are emphasized. Lecture three hours, laboratory four hours a week. Prerequisites: Physics 101, 102, Chemistry 103, 104, and consent of instructor.

**304. Nervous System Structure and Function** A comprehensive introduction to the structure and function of the nervous system. Basic cellular processes, mechanisms of interaction between cells, and principles of organization of the complex assemblies of cells displayed in the vertebrate brain are considered in lectures and laboratory exercises. The latter also provides an introduction to neurophysiological and neuroanatomical methods. Lecture three hours, laboratory four hours a week. Prerequisites: Biology 101, 102, 202, and Chemistry 103, 104. (Hollyday, Grobstein)

**305. Neurobiology and Behavior: Advanced Topics** A seminar course on current issues in neurobiology and behavior. Discussion is based on readings from the primary literature. Topics vary from year to year. One three-hour discussion a week. Prerequisite: Biology 202 or consent of instructor. (Grobstein)

**306. Molecular Genetics** Elements of molecular genetics, including the genetics of viruses, bacteria, and eukaryotic microorganisms, chromosome structure and function, genetics of organelles, immunogenetics, genetic regulation, and recombinant DNA technology. Lecture two hours a week. Prerequisites: Biology 201 and Chemistry 211, 212. (Kaney)

**307. Nervous System Structure: Advanced Topics** A seminar course on current issues in the analysis of nervous system structure. Discussion based on readings from the primary literature. Topics vary from year to year. One three-hour discussion a week. Prerequisite: Biology 304. (Hollyday; not offered in 1989-90)

**322. Neurochemistry Seminar** A seminar course on selected topics concerning the nervous system, stressing chemical and biochemical approaches. Topics include the composition and function of myelin in central versus peripheral nervous system; the chemistry and biology of nerve growth factor, neurotransmitter metabolism and interactions with receptors, roles of other neuromodulators and receptors in neural function. Prerequisites: Biology 341 or 342 and consent of instructor. (Prescott)

**329. Elements of Mathematical Biology** A study of the increasingly important role of mathematics in biological research and applications in experimental design, analysis of data, and hypothesis testing. Non-statistical mathematical techniques derived from elementary calculus, including differential and difference equations, control theory, and the more elementary aspects of dynamical systems theory are emphasized. Topics from physiology, biochemistry, and molecular biology include feedback control of hormonal regulation, control of protein synthesis, regulation of intermediary metabolism, and the dynamical characterization of neurobiological signals. Prerequisites: Mathematics 102 or equivalent.

**336. Evolutionary Biology: Advanced Topics** A seminar course on current issues in evolution. Discussion based on readings from the primary literature. Topics vary from year to year. One three-hour discussion a week. Prerequisite: Biology 236 or consent of instructor. (Gardiner, staff)

**340. Cell Biology** A lecture course with laboratory emphasizing current knowledge in cell biology. Among topics discussed are cell membranes, cell surface specializations, cell motility and the cytoskeleton, regulation of cell activity, energy generation, and protein synthesis. Laboratory experiments are focused on studies of cell structure, making use of techniques in cell culture, immunocytochemistry, and electron microscopy. Lecture three hours, laboratory four

hours a week. Prerequisites: Biology 201 or 271; Chemistry 211, 212 (may be taken concurrently); or consent of instructor. One semester of biochemistry is recommended. (Greif; not offered in 1989-90)

**341. Biochemistry: Macromolecular Structure and Function** The structure, chemistry, and function of proteins, lipids, and polysaccharides and their roles in living systems. Lecture three hours, laboratory six hours a week. Prerequisites: Chemistry 211, 212. Chemistry 221, 222; Physics 101, 102; Mathematics 101, 102 are recommended. (Strothkamp, Prescott)

**342. Biochemistry: Intermediary Metabolism** Metabolic relationships of carbohydrates, lipids, and amino acids, and the control of various pathways; photosynthesis; nucleic acids and protein biosynthesis. Lecture three hours, laboratory six hours a week. Prerequisite: Biology 341. (Prescott, Strothkamp)

**346. Advanced Biochemistry** A seminar course dealing with the chemistry of membrane embedded proteins. Prerequisites: Biology 341, 342. (Prescott)

**350. Cellular Physiology I** A study of the activities of cells in terms of physical and chemical processes. Molecular composition of cells and cellular organelles is examined and related to function and metabolism. Lecture three hours, laboratory four hours a week. Prerequisites: Biology 201 and Chemistry 211, 212, which may be taken concurrently. (Conner)

**351. Cellular Physiology II** An examination of the molecular bases for transport phenomena, including bulk transfer movement of molecules into and within cells. The relationship of biosynthetic mechanisms, positioning of macromolecules, and metabolic regulation are stressed. The laboratory includes the chemical analysis of cellular constituents. Thin layer, partition, and gas liquid chromatography are employed as well as organelle isolation and microscopic techniques. Lecture three hours, laboratory four hours a week. Prerequisites: Chemistry 211, 212 (may be concurrent), Biology 340, 342 or 350. (Conner)



**352. Membrane Physiology** A seminar course on recent literature about membrane phenomena, including the mechanisms for bulk transport, small molecule transport, and chemical specificity. Prerequisites: Biology 341, 350, and 351, and consent of instructor. (Conner; not offered in 1989-90)

**355. Genetic Analysis of Behavior** A seminar course on work from the current literature dealing with genetic control of behavior. Prerequisites: Biology 201, Chemistry 211, 212, or consent of instructor. (Kaney)

**356. Genetic Analysis of Development** A seminar course on work from the current literature dealing with the genetic control of development. Prerequisite: Biology 201, Chemistry 211, 212, or consent of instructor. (Kaney)

**359. Topics in Cell Biology** A seminar course on current issues in cell biology. Discussions based on readings from the current literature. Topics vary from year to year. One two-hour discussion a week. Prerequisites: Biology 340 or 350, 341 or 342, and consent of instructor. (Greif; not offered in 1989-90)

**363. Cellular Biochemistry** An examination of the regulation of intermediary metabolism as a function of the compartmentalization of enzymes, of carrier proteins, of substrates and products, as well as by protein-protein and protein-substrate interactions. The role of covalent protein modification as a regulatory mechanism is examined in several well-documented cases. Lecture two hours, laboratory four hours a week. Prerequisites: Biology 341, 342, or 346, and consent of instructor. (Conner; not offered in 1989-90)

**364. Developmental Neurobiology** A seminar course on major topics in developmental neurobiology. Topics include cell migration, cell death, cell-cell recognition, axon guidance, and synapse formation. Readings from the current literature are emphasized. Prerequisites: Biology 201 or 271; Chemistry 211, 212, and consent of instructor. (Hollyday)

**365. Neurobiology and Behavior: Developmental Issues** A seminar course on current issues in neural and behavioral development. Discussion based on readings from the primary literature. One three-hour discussion a week. Prerequisites: Biology 202 and 271 (Biology 364 is desirable), or consent of instructor. (Grobstein)

**371. Developmental Biology: Advanced Topics** A seminar course on current issues in developmental biology. Discussion based on readings from the primary literature. Topics vary from year to year. One three-hour discussion a week. Prerequisite: Biology 271 or consent of instructor. (Hollyday)

**372. Molecular Biology** (not offered in 1989-90)

**403. Supervised Laboratory Research in Biology** Laboratory research under the supervision of a member of the department. Prerequisite: Consent of instructor. (Staff)

**405. Supervised Library Research in Biology** Library research under the supervision of a member of the department. Prerequisite: Consent of instructor. (Staff)

Graduate Seminars in the Department of Biology are open to qualified undergraduates with the consent of the department.

Haverford College offers the following courses in biology, some of which are half-semester courses:

**200. Cell Structure and Function**

**300. Laboratory in Electron Microscopy and Immunology**

**300. Laboratory in Molecular Biology of Proteins and Nucleic Acids**

**301. Cell Biology I: Molecular and Cellular Genetics**

**303. Cell Biology II: Structure and Function of Macromolecules**

**304. Cell Biology III: Metabolic Biochemistry and Biosynthesis of Macromolecules**

**306. Cell Biology V: Intra and Intercellular Signalling**

**353. The Biosynthesis of Organelles**

**355. Fundamentals of Immunology**

**359. Molecular and Cellular Aspects of Pattern Formation**

- 400. Senior Research Tutorial in Covalent Interactions Between Protein Molecules
- 401. Senior Research Tutorial in Molecular Biology
- 402. Senior Research Tutorial in Gene Action
- 405. Senior Research Tutorial in Gene Expression
- 406. Senior Research Tutorial in Cellular Immunology
- 407. Senior Research Tutorial in Developmental Genetics

## CHEMISTRY

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*Professors:*

Frank B. Mallory, Ph.D., *W. Alton Jones Professor and  
Chairman*  
George L. Zimmerman, Ph.D.

*Associate Professors:*

Kenneth G. Strothkamp, Ph.D.  
Charles S. Swindell, Ph.D.  
Joseph Varimbi, Ph.D.

*Assistant Professors:*

Sharon J. Nieter Burgmayer, Ph.D.  
Michelle M. Francl, Ph.D., *on the Rosalyn R. Schwartz  
Lectureship (on leave, 1989-90)*

*Laboratory Coordinators:*

Krynn DeArman Lukacs, Ph.D.  
Maryellen Nerz-Stormes, Ph.D.

The undergraduate course program in chemistry is designed to give students a sound background in both theoretical and practical aspects of four main fields: organic chemistry, physical chemistry, inorganic chemistry, and biochemistry. Laboratory work is emphasized throughout the curriculum to provide students with modern training in experimental skills and analytical techniques. The core program, consisting of the 100-level and 200-level courses, covers fundamental

principles of chemistry and provides the basis for the advanced work at the 300 level and 400 level, in which students encounter contemporary chemical problems and the progress being made toward solving them.

The requirements for a major in chemistry include ten courses, consisting of Chemistry 101 or 103, 104, 211, 212, 221, 222, 231, 232, and two courses selected from among Chemistry 311, 312, 321, 322, 332, 341, and 342 (or any chemistry course at the 500 level) with the provision that at least one of these two courses includes laboratory work (i.e., Chemistry 311, 322, 341, or 342). Other required courses are Mathematics 101, 102 and Physics 101, 102. Beginning with the class of 1992, Mathematics 201 is also required. All A.B. recipients who complete this program are certified by the American Chemical Society as having met that society's high standards for an undergraduate degree in chemistry.

Additional mathematics and a reading knowledge of German both can be valuable for work in chemistry past the undergraduate level. Majors are encouraged to take additional 300-level (or 500-level) courses and 400-level research in chemistry beyond the standard program.

The usual schedule for the standard chemistry major involves taking Chemistry 101 or 103, Chemistry 104, and Mathematics 101, 102 in the freshman year, Chemistry 211, 212 and Physics 101, 102 in the sophomore year, Chemistry 221, 222 and Chemistry 231, 232 in the junior year, and appropriate advanced courses in the senior year.

Students may receive an A.B. degree in chemistry with a concentration in biochemistry by fulfilling the requirements for a major in chemistry, including Chemistry 341, 342, and by completing, in addition, two semesters of work in biology at or above the 200 level, including some work in genetics.

The A.B. degree with honors in chemistry has the following requirements: two semesters of supervised research in chemistry (Chemistry 403) with a grade of at least 3.3 in each semester; the submission of an acceptable paper describing the results of that research; two semesters of 300-level (or 500-level) work in chemistry (or, with consent of the department, appropriate work at or above the 200 level in related fields) in addition to the courses required for the standard chemistry major; and a grade point average, calculated at the end of the senior year, of at least 3.4 in all chemistry courses taken.

To qualify for a minor in chemistry, a student must complete a total of six courses in chemistry, including Chemistry 221. At least two of the six courses must be taken at Bryn Mawr College.



To earn an M.A. degree in chemistry in the College's A.B./M.A. program, a student must complete six units of graduate level work in chemistry: as many as two of these units may be 300-level undergraduate courses taken for graduate credit (these same courses may be used to fulfill the major requirements for the A.B. degree), at least two units must be 500-level graduate seminars, and two units must be 700-level graduate research leading to the submission of an acceptable M.A. thesis. Other requirements are the demonstration of skill in computing or in a foreign language, a written final examination covering material in the candidate's special field, and an oral examination.

**101. Introduction to Chemistry** The atomic theory of matter; stoichiometry of chemical reactions; properties of gases, liquids, and solids; phase changes; the electronic structure of atoms; chemical bonding; introduction to thermodynamics; the chemistry of representative nonmetallic elements. Laboratory work emphasizes quantitative techniques and the application of principles discussed in the lectures. Lecture three hours, laboratory three hours a week. Prerequisite: math readiness or consent of instructor; placement in Chemistry 101 or 103 is resolved by the instructors in interviews with each student. (Varimbi, Lukacs, Division IIL)

**103. General Chemistry** Lecture topics similar to those of Chemistry 101 but covered in greater depth. Laboratory identical to Chemistry 101. Lecture three hours, laboratory three hours a week. Prerequisite: math readiness or consent of instructor; placement in Chemistry 103 or 101 is resolved by the instructors in interviews with each student. (Burgmayer, Lukacs, Division IIL)

**104. General Chemistry** A continuation of either Chemistry 101 or Chemistry 103. Ionic equilibria; introduction to chemical kinetics, electrochemistry, and radiochemistry; the chemistry of representative metallic elements. Lecture three hours, laboratory three hours a week. Prerequisite: Chemistry 101 or 103. (Strothkamp, Lukacs, Division IIL)

**211. Organic Chemistry** An introduction to the principles of organic chemistry, including synthetic and spectroscopic techniques. Lecture three hours, laboratory lecture one hour, and laboratory four or five hours a week. Prerequisite: Chemistry 104. (Mallory, Nerz-Stormes, Division IIL)

**212. Organic Chemistry** A continuation of Chemistry 211. Lecture three hours, laboratory lecture one hour, and laboratory four or five hours a week. Prerequisite: Chemistry 211. (Swindell, Nerz-Stormes, Division IIL)

**221. Physical Chemistry** Classical thermodynamics, with application to equilibria and electrochemistry. Lecture three hours, laboratory five hours a week. Prerequisites: Chemistry 104 and Mathematics 102. Co-requisites: Physics 101, and beginning in 1990, Mathematics 201. (Zimmerman, Division IIL)

**222. Physical Chemistry** A continuation of Chemistry 221. Introduction to quantum chemistry and spectroscopy; kinetic theory of gases; chemical kinetics. Lecture three hours, laboratory five hours a week. Prerequisite: Chemistry 221. Co-requisite: Physics 102. (Varimbi, Division IIL)

**231. Inorganic Chemistry** Atomic structure, bonding theory, structures and properties of ionic solids, symmetry, crystal field theory, structures and spectroscopy of coordination compounds. Lecture three hours, laboratory five hours a week. Co-requisite: Chemistry 221. (Burgmayer, Varimbi, Division IIL)

**232. Inorganic Chemistry** A continuation of Chemistry 231. Stereochemistry, reactions, and reaction mechanisms of coordination compounds; oxidation-reduction reactions; acid-base concepts; descriptive chemistry of main group elements; organometallic chemistry; bioinorganic chemistry. Lecture three hours, laboratory five hours a week. Prerequisite: Chemistry 231. Co-requisite: Chemistry 222. (Burgmayer, Division IIL)

**311. Advanced Organic Chemistry** Lectures: reaction mechanisms and structure-reactivity relationships of synthetically important reactions. Laboratory: analytical, synthetic, and spectroscopic techniques. Lecture three hours, laboratory five hours a week. Prerequisites: Chemistry 212 and 222. (Swindell)

**312. Advanced Organic Chemistry** A continuation of Chemistry 311. Lecture three hours a week. Prerequisites: Chemistry 212 and 222. (Mallory)

**321. Advanced Physical Chemistry** The applications of quantum chemistry to chemical bonding and molecular spectroscopy. Lecture three hours a week. Prerequisites: Chemistry 212 and 222. (Zimmerman)

**322. Advanced Physical Chemistry** Atomic emission, infrared, Raman, electronic absorption, and nuclear magnetic resonance spectroscopy; group representation theory; radiative transition probability theory. Lecture three hours, laboratory five hours a week. Prerequisite: Chemistry 321. (Zimmerman)

**332. Advanced Inorganic Chemistry** Group theory with applications to structure, bonding, and spectroscopy in organic, organometallic, and transition metal compounds. Lecture three hours a week. Prerequisite: Chemistry 231. Co-requisite: Chemistry 222. (Burgmayer)

**341. Biochemistry: Macromolecular Structure and Function** The structure, chemistry, and function of proteins, lipids, and polysaccharides, and the roles of these molecules in living systems. Lecture three hours, laboratory the equivalent of six hours a week. Prerequisite: Chemistry 212. In addition, Physics 101, 102, Mathematics 101, 102, and Chemistry 221, 222 are recommended. (Strothkamp, Prescott)

**342. Biochemistry: Intermediary Metabolism** Metabolic relationships of carbohydrates, lipids, and amino acids and the control of various pathways; photosynthesis; nucleic acids. Lecture three hours, laboratory the equivalent of six hours a week. Prerequisite: Chemistry 341. (Strothkamp, Prescott)

**403. Supervised Research in Chemistry** Many individual research projects are available, each under the supervision of a member of the faculty. Laboratory at least ten hours a week. Prerequisite: consent of faculty supervisor. (Staff)

Graduate Seminars in the Department of Chemistry are open to qualified undergraduates with the consent of the department.

Haverford College offers the following courses in chemistry:

- 100. Basic Concepts of Chemistry
- 101. Atoms and Molecules in Isolation and Interaction
- 103. The Chemical Reaction
- 108. Introduction to Organic Chemistry
- 203. Topics in Organic Chemistry
- 206. Physical Chemistry I
- 207. Physical Chemistry II
- 301. Laboratory in Chemical Structure and Reactivity
- 302. Laboratory in Chemical Structure and Reactivity
- 310. Topics in Physical and Inorganic Chemistry
- 357. Topics in Organic Chemistry

## **CLASSICAL AND NEAR EASTERN ARCHAEOLOGY**

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*Professors:*

Richard S. Ellis, Ph.D., *Acting Chairman Semester I, 1989-90*

Gloria F. Pinney, Ph.D., *Chairman (on leave, 1989-90)*

Brunilde S. Ridgway, Ph.D., *Rhys Carpenter Professor and  
Acting Chairman Semester II, 1989-90 (on leave, Semester I, 1989-90)*

*Professor of Classical and Near Eastern Archaeology and of  
History of Art:*

Phyllis Pray Bober, Ph.D., *Leslie Clark Professor in the  
Humanities*

*Associate Professor:*

James C. Wright, Ph.D.



*Assistant Professor:*

Bonnie Magness-Gardiner, Ph.D., *on the Rosalyn R. Schwartz  
Lectureship*

*Lecturers:*

Ira S. Mark, Ph.D.

Jean McL. Turfa, Ph.D.

The major courses provide an extensive survey of the ancient Mediterranean and Near Eastern civilizations, with emphasis on classical art and archaeology.

Requirements in the major subject are Archaeology 101, 102, and 209; one course in ancient architecture (223, 302, or 324); one course in ancient sculpture (205, 206, or 261); one course in ancient pottery (301 or 308); one course in Egyptian or Near Eastern archaeology (202, 207, 213, 216, or 307); one course in ancient history (221 or History 205, History 207, or History 208); and the Senior Conference (398, 399). All majors are urged to take Greek or another ancient language and to acquire a reading knowledge of French and German.

Requirements for the minor in archaeology are Archaeology 101, 102 plus four courses to be determined in consultation with the department and in accordance with the specific interests of each student.

A year-long research project, culminating in a lengthy paper written under the supervision of a department member is required to be considered for honors. Honors are granted if the final paper is considered of superior quality (above 3.3); credit is given for a unit of independent research (403) in case of a lower grade. Students can register by departmental invitation only.

The department has had a series of excavation projects. Three of them, the excavations at Karataş/Semayük and at Gritille in Turkey, and the survey and excavation in the Nemea Valley in Greece, have finished their field work and are now in the phases of analysis and publication of the results. Further field projects in Greece or the Near East are foreseen. There will be opportunities for recent Bryn Mawr graduates and advanced undergraduates to participate in these projects. In addition, students are often able to take part in excavations sponsored by other institutions. Archaeology majors who are interested in excavation are strongly urged to get field experience as soon as possible and to consider attending training programs in the United States or abroad, as well as in the area of their special interests.

Study in Italy, Greece, or other foreign countries during the junior year is desirable if the program is approved by the department, in which case credit is given for elective courses and occasionally for major requirements subject to satisfactory performance by the student. For majors concentrating in classical archaeology, the summer program sponsored by the American School of Classical Studies in Athens is strongly recommended. Instruction in Middle Egyptian and Akkadian can be received at the University of Pennsylvania, with consent of the appropriate instructors and the major adviser.

**101. Introduction to Ancient Art I** An historical survey of the art of the ancient Near East and Egypt and the prehistoric Aegean. Three hours of class, one hour of informal discussion a week. (Ellis, Wright, Division III)

**102. Introduction to Ancient Art II** An historical survey of the art of Greece, Etruria, and Rome. Three hours of classes, one hour of informal discussion a week. (Ridgway, Division III)

**202. Mesopotamia to 1600 B.C.** (Ellis, Division III)

**203. Ancient Greek Cities and Sanctuaries** A study of the development of the Greek city-states and sanctuaries. (Wright, Division III)

**205. Greek Sculpture** The development of Greek sculpture including the Hellenistic period. (Mark, Division III)

**206. Hellenistic and Roman Sculpture** From the Hellenistic period to the end of the Roman Empire. (Pinney, Division III; not offered 1989-90)

**207. Mesopotamia after 1600 B.C.** (Ellis, Division III)

**209. Aegean Archaeology** The prehistoric cultures of the Aegean area concentrating on Minoan Crete, Troy, the Aegean Islands, and Mycenaean Greece. (Wright, Division III)

**210. Agricultural Origins and Urbanization in the Prehistoric Aegean** The origins of agriculture and urbanization in relation to the rise of early civilizations in the Near East, Egypt, and the Aegean; the course traces the evidence from the Palaeolithic period through the Early Bronze Age, including comparative evidence outside the Aegean. The sub-

specialties important to this field, palaeoethnobotany and -zoology, lithics, and early pyrotechnologies, are also emphasized. Prerequisites: Archaeology 101 or Anthropology 101. (Wright)

**213. Egyptian Archaeology** (Ellis, Division III)

**216. Hittite Archaeology** (Magness-Gardiner, Division III)

**221. History of the Ancient Near East** The history of the ancient Near East from the middle of the fourth millennium B. C. to the rise of the Persian Empire, emphasizing the written and archaeological sources and the extent and limitations of the data. Primary focus on Mesopotamia and Egypt; the history and culture of Anatolia and Syria/Palestine are summarized. Topics include the rise of urbanism and state organization, the development and consequences of literacy, and the degree to which the contributions of different ethnic groups can be distinguished. (Ellis, Division III; cross listed as History 221)

**223. Ancient Near Eastern Architecture and Cities** Building techniques, forms, and functions of structures, settlements and cities; effects of environment and social structure. (Ellis, Division III)

**261. Roman Art** An historical survey of the visual arts of Rome and her provinces; sculpture, painting, decorative arts, from the sixth century B.C. to the early fourth century A.D. (Pinney, Division III; not offered 1989-90)

**301. Greek Vase-Painting** Greek vase-painting as an original form of art, its relation to other arts, and its place in archaeological research. (Mark)

**302. Greek Architecture** The Greek architectural tradition and its historical development. (Wright)

**305. Etruscan Archaeology** An introduction to the sites and monuments of Etruria. (Turfa)

**306. Monumental Painting** The arts of wall painting and mosaics in the Greek world and in Italy from the archaic period to the third century A.D. (Pinney; not offered 1989-90)

**307. Archaeology of Syria and Palestine** The archaeology of

the Levant and its relationships with surrounding cultures from the beginning of urban civilization to ca. 500 B.C. (Magness-Gardiner)

**308. Methods and Techniques of Pottery Analysis** Pottery as a fundamental means of establishing the relative chronology of ancient Near Eastern sites and of understanding past human behavior on these sites. The course introduces theories, methods and techniques of pottery description, analysis, and interpretation. Topics include pottery typology and seriation; ceramic characterization studies, pottery production, function and exchange, and the use of computers in pottery analysis. Laboratory work on pottery from Tell el-Hayyat, a Bronze Age site in Transjordan, is included. Prerequisites: one 200 or 300-level archaeology course. (Magness-Gardiner)

**309. The Origins of Civilization and the State** The problem of the origin and development of the state and civilization, including several alternative theories of state formation processes and the development of urbanism. Data examined are primarily archaeological; ethnographic and textual evidence is also included. Case studies include Mesopotamia, Mesoamerica, and archaeologically known sequences from other parts of the New and Old Worlds. (Davis, Ellis; cross listed as Anthropology 309)

**324. Roman Architecture** The architecture of the Republic and the early Roman Empire. (Bober)

**398, 399. Senior Conference** Weekly two-hour seminars with assigned reading and reports. (Staff)

**403. Supervised Work**

## **COMPUTER SCIENCE**

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*Professors of Mathematics at Haverford College:*  
William Davidon, Ph.D.  
Curtis Greene, Ph.D., *Coordinator of Computer Science*

*Assistant Professor at Haverford College:*  
Steven Lindell, Ph.D.



*Assistant Professor of Physics at Haverford College:*  
Lyle Roelofs, Ph.D.

*Assistant Professor in Mathematics at Bryn Mawr College:*  
Nancy A. Yoshimura, Ph.D.

*Instructor in Mathematics at Haverford College:*  
Jeffrey Tecosky, M.A.

*Instructor in Mathematics at Bryn Mawr College:*  
Richard Stegman, M.S.

Computer science studies methods of solving problems, and processes which manipulate and transform information. It is the science of algorithms—their theory, analysis, design, and implementation. As such, it is an interdisciplinary field with roots in mathematics and engineering and applications in many other academic disciplines.

Computer science is a two-College program, supported jointly by faculty at both Bryn Mawr and Haverford Colleges. Haverford offers computer science as an area of concentration, anchored in the Departments of Mathematics and Physics. Bryn Mawr offers computer science as a minor which can be combined with any major, depending on the student's preparation.

Both Haverford's concentration and Bryn Mawr's minor emphasize foundations and basic principles of information science, rather than engineering or data-processing applications. Both Colleges believe this approach to be the most consistent with the principles of scientific education in the liberal arts. The aim is to provide students with skills which transcend short-term fashions and fluctuations in computer hardware and software. Some of these skills are mathematical, others come from the rapidly growing and maturing field of computer science itself.

The program at Haverford introduces students to both the theoretical and practical aspects of computer science through a core sequence of four courses, designed to be taken in the sophomore and junior years: Computer Science 240: Principles of Computer Organization, Computer Science 245: Principles of Programming Languages, Computer Science 340: Analysis of Algorithms, and Computer Science 345: Theory of Computation. These are normally preceded by an introductory sequence on programming and data structures (Computer

Science 105 and 206) and by a course in discrete mathematics (Computer Science 190 at Haverford, Mathematics 231 at Bryn Mawr). Additional electives and advanced topics courses build on material developed in the four core courses.

The requirements for the concentration at Haverford may be combined with existing mathematics and physics major requirements. For a computer science concentration with a major in mathematics, students must complete Computer Science 105, 206; Computer Science 240 or 245; Computer Science 340 or 345; one additional computer science course at the 300 level or higher; and one additional computer science course at the 200 level or higher cross-listed with mathematics or physics. For a computer science concentration with a major in physics students must complete Computer Science 206 and 240, Physics 316 and 322, and two additional courses at the 200 level or higher from either computer science or from related courses in mathematics (such as Mathematics 218, 227, and 250). Interested students should consult with the faculty members listed above to develop an appropriate course schedule.

The requirements for a minor in computer science at Bryn Mawr are Computer Science 110 or 105; Computer Science 206; Mathematics 231; two of the four core courses (Computer Science 240, 245, 340, and 345); and two electives chosen from any course in computer science at Bryn Mawr or Haverford, or approved by the student's adviser in computer science.

**100. Introduction to Computer Problem Solving** An introduction to the use of the computer for problem solving in any discipline, including an introduction to programming in a structured language (currently Pascal) with emphasis on the development of general problem-solving skills and logical analysis. Applications are chosen from a variety of areas, emphasizing the non-technical. (Offered at Haverford)

**105. Introduction to Computer Science** Introduction to programming (in Pascal) for students interested in doing more advanced work in computer science and other technical and scientific fields. Additional topics in computer science and discrete mathematics are introduced through programming exercises. (Lindell; offered at Haverford)

**110. Introduction to Computing** An introduction to the

concepts of computing: algorithms, data structures, and computing devices, including a complete development of Pascal. (Yoshimura, Division II or Quantitative Skills)

**190. Discrete Mathematics** An introduction to methods and ideas which are central to many branches of discrete applied mathematics, especially computer science. Topics include set theory, functions and relations, formal logic, elementary combinatorics and discrete probability, graph theory, Boolean algebras, finite state machines, formal languages, and additional selected topics varying from year to year. (Davidon, Division II or Quantitative Skills; offered at Haverford)

**206. Introduction to Data Structures** Introduction to the fundamental algorithms and data structures of computer science: sorting, searching, recursion, backtrack search; lists, stacks, queues, trees, graphs, dictionaries. Introduction to the analysis of algorithms. Prerequisite: Computer Science 105, or consent of instructor. (Division II or Quantitative Skills)

**207. Computer Operating Systems and "C"**

**231. Discrete Mathematics I** An introduction to discrete mathematics with strong applications to computer science. Topics include set theory, functions and relations, propositional logic, proof techniques, recursion, graph theory, and counting techniques. (Yoshimura, Division II or Quantitative Skills; cross-listed as Mathematics 231)

**232. Discrete Mathematics II** Additional topics in discrete mathematics with strong applications to computer science, including algebraic structures (monoids, lattices, and Boolean algebras), formal language theory (regular and context-free languages), machines (automata and Turing machines), computability, and complexity theory. (Yoshimura, Division II or Quantitative Skills; cross listed as Mathematics 232)

**240. Principles of Computer Organization** A lecture/laboratory course studying the hierarchical design of modern digital computers. Combinatorial and sequential logic elements; construction of microprocessors; instruction sets; assembly language programming. Lectures cover the theoretical aspects of machine architecture. In the laboratory, designs discussed in lecture are constructed in software. Prerequisite: Computer Science 206, or consent of instructor; Computer Science

190 is strongly recommended. (Lindell, Division II or Quantitative Skills)

**245. Principles of Programming Languages** A lecture/laboratory course studying the design and implementation of modern programming languages. Structured programming, scoping, run-time environment, functional programming, resolution theorem proving. Lectures cover the theory behind syntax and semantics. In the lab students have an opportunity to analyze the behavior of procedural, applicative, and declarative languages. Prerequisite: Computer Science 206 or consent of instructor; Computer Science 190 is strongly recommended. (Lindell, Division II or Quantitative Skills; offered at Haverford)

**260. Computer Graphics**

**262. Computer Networks with Lab Applications**

**320. Numerical Analysis** Introduction to computer based analysis with applications in various fields. Topics include linear and nonlinear systems, eigenvalue problems, interpolation, numerical integration and differentiation, solution of differential and integral equations. Prerequisite: Mathematics 102 at Bryn Mawr or Mathematics 114 at Haverford. (Davidon; offered at Haverford)

**340. Analysis of Algorithms** Qualitative and quantitative analysis of algorithms and their corresponding data structures from a precise mathematical point of view. Performance bounds, asymptotic and probabilistic analysis, worst case and average case behavior. Correctness and complexity. Particular classes of algorithms such as sorting and searching are studied in detail. Prerequisite: Computer Science 206 and some additional mathematics at the 200 level, or consent of instructor. (Instructor to be announced)

**345. Theory of Computation** Introduction to automata theory, formal languages, and complexity. Introduction to the mathematical foundations of computer science: finite state automata, formal languages and grammars, Turing machines, computability, unsolvability, and computational complexity. Prerequisite: Computer Science 190, 206, and some additional mathematics at the 200 level, or consent of instructor. (Lindell; offered at Haverford)



**350. Topics in Computer Science** Topics vary from year to year, depending on student and instructor interest, for example operating systems, compilers, computer graphics. May be repeated for credit. (Yoshimura)

**391. Advanced Topics in Theoretical Computer Science** A senior reading/project/seminar course. (Lindell; offered at Haverford)

**393. Advanced Topics in Computer Systems** A senior reading/project/seminar course. (Tecosky; offered at Haverford)

**399. Senior Seminar** Seminar for seniors writing theses, dealing with the oral and written exposition of advanced material.

In addition to the courses listed above, the following courses are also of interest:

**Interdepartmental 220. Introduction to Scientific Computation and Programming**

**Mathematics 218. Probability and Statistics** (at Haverford)

**Mathematics 227. Introduction to Mathematical Logic** (at Haverford)

**Mathematics 250. Combinatorial Analysis** (at Haverford)

**Philosophy 213. Introduction to Mathematical Logic**

**Philosophy 242. Theory of Recursion**

**Philosophy 318. Philosophy of Language**

**Physics 316. Electronic Instrumentation and Laboratory Computers** (at Haverford)

# ECONOMICS

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*Professors:*

Richard B. Du Boff, Ph.D.

Noel J. J. Farley, Ph.D.

Helen Manning Hunter, Ph.D., *Mary Hale Chase Professor in the Social Sciences and Social Work and Social Research and Chairman*

*Assistant Professor:*

Harriet B. Newburger, Ph.D.

*Visiting Lecturer:*

Jack Topiol, M.A.

## At Haverford College

*Associate Professors:*

Vernon Dixon, Ph.D., *Chairman*

*Assistant Professors:*

Jamie Howell, Ph.D.

Vladimir Kontorovich, Ph.D.

*Visiting Assistant Professors:*

Kris Sjoblom, Ph.D.

Michael A. Leeds, Ph.D.

The economics curriculum consists of courses given at Bryn Mawr and Haverford. It is designed to provide an understanding of economic processes and institutions and the interactions among the economic, political, and social structures; it trains undergraduates in the methods used to analyze those processes and institutions and enables them to make policy judgments.

Economics 101 and 102 present the theories and operating characteristics of modern economies that an educated person should understand; they also prepare students for further work in economics and business. The group of intermediate, 200-level courses offers a full range of topics in the discipline and is intended to meet a variety of student interests. The advanced courses supply a methodological and theoretical

foundation for those planning to use economics in their professional careers.

Requirements for the economics major are ten semester courses in economics, including Economics 101 and 102; Economics 203: Statistical Methods in Economics, which majors must take before their senior year; Economics 300: Microeconomic Analysis and Economics 302: Macroeconomic Analysis, plus at least two additional semester courses of 300-level work. Economics 305 and 308 at Haverford may be substituted for Economics 300 and 302. Either Economics 111: Financial Accounting or Economics 112: Corporate Finance may be taken for major credit, but not both.

At least one course must be taken that requires a substantial research paper. Economics 304, 306, 314, 325, 398, 399, or 403: Supervised Work can fill this requirement. In Economics 398 and 399, a long research paper is required only for students who have not met this requirement in another course. Mathematics 101 or its equivalent is a prerequisite for Economics 300, 302, 303, 304, and some other courses. Economics majors should, if possible, take Mathematics 102 as well as 101. Mathematics 103 is also helpful.

Prospective majors in economics are advised to take Economics 101 and 102 by the end of the first semester of sophomore year. Students whose grade in Economics 101 or 102 is below 2.3 are advised not to major in economics. It is suggested that two or three 200-level courses be taken as background for 300-level courses. Members of the department should be consulted about desirable sequences of courses.

An economics major whose grade point average in economics courses at the beginning of the second semester of senior year is 3.4 or better is invited to become a candidate for the degree with honors in economics. Honors are awarded on the basis of a student's performance on a comprehensive examination administered by the department, the department's evaluation of a paper or other written work that the student submits as an example of her "best" work, and the student's performance in all her economics courses, including those taken in the second semester of senior year. Average grades of 3.7 for the paper and the comprehensive examination are required in order for a student to graduate with honors.

Requirements for the minor in economics include Economics 101, 102, 203, and a coherent selection of three or more additional courses approved by the department chair-

man. For information about the International Economic Relations Program, see page 290.

Students intending to do graduate work in economics should take at least two full years of college-level mathematics (101, 102 and 201, 202 or the equivalent), and Economics 300, 302, and 304.

**101. Introduction to Microeconomics** Techniques of analysis pertaining to the individual industry, the firm, and consumer choice. The functioning of markets under competition and monopoly. Determination of prices for goods and factors of production and the distribution of income. Efficiency, equity, and market failure. Comparative advantage and international trade. Prerequisite: math readiness is recommended. (Staff, Division I)

**102. Introduction to Macroeconomics** The analysis of aggregate economic activity, including consumption, investment, public spending, and money and credit. Theories of inflation and unemployment. The role of government, especially fiscal and monetary policies. The international balance of payments and foreign exchange rates. Prerequisite: Economics 101; math readiness is recommended. (Staff, Division I)

**111. Financial Accounting** An introduction to theory and practices of accounting for private business firms; measuring and reporting results of business activities; preparation of financial statements for external users; analysis of operations and financial status of firms, with particular reference to problems of valuation and periodic income measurement. (Topiol)

**112. Corporate Finance** Theories and practices of corporate finance with a focus on investing and financing decisions of business firms. Topics include financial instruments and markets, valuation and risk measures, financial analysis and planning, cost of capital, capital budgeting, and financial management. Prerequisite: Economics 111. (Topiol)

**203. Statistical Methods in Economics** Frequency distributions, probability and sampling theory, simple correlation and multiple regression, and an introduction to econometric terminology and reasoning. The computer techniques required are developed as part of the course. Prerequisites:



Economics 101, 102, which may be taken concurrently.  
(Hunter, Howell, Division I or Quantitative Skills)

**206. International Economics** International exchange in the nonproduction situation. Comparative advantages, the Heckscher-Ohlin theorem, and the gains from trade. Empirical studies of the basis of United States trade. Price agreements on primary commodities. Market structure, multinational firms, and foreign investment. Tariff theory and trade between industrialized and developing countries. Prerequisites: Economics 101, 102. (Farley, Division I)

**207. Money and Banking** The development and present organization of the financial system of the United States. Domestic and international monetary theory and policy. Prerequisites: Economics 101, 102. (Hunter, Division I)

**208. Labor Economics** At Haverford. (Leeds, Division I)

**211. The Soviet System** at Haverford. (Kontorovich, Division I)

**213. Industrial Organization and Public Policy** at Haverford. (Division I)

**214. Public Finance** Analysis of government's role in resource allocation, emphasizing effects of tax and expenditure programs on income distribution and economic efficiency. Topics include sources of inefficiency in markets and possible government responses; federal budget composition; U. S. tax structure and incidence; multigovernment public finance. Prerequisites: Economics 101, 102. (Newburger, Division I)

**215. Urban Economics** Application of micro- and macroeconomic theory to urban economic problems. Topics include housing and land use; transportation; urban labor markets; and demand for and financing of urban services. Prerequisites: Economics 101, 102 or permission of the instructor. (Lahr, Division I)

**216. International Finance and Economic Policy** Tariffs in a customs union; the balance of payments and theories of its determination; fixed and flexible exchange rates; the dollar's behavior in exchange markets; the Eurodollar market and the

European marketing system; public policy for internal and external balance. Prerequisite: Economics 206. (Farley, Division I)

**221. United States Economic Development** Long-term trends in output, labor and capital, and technology, with emphasis on the rise of "big business" after 1870. Foreign trade and investment and the role of government. The framework is one of imbalances and disequilibria in an expanding capitalist economy. Prerequisites: Economics 101, 102. (Du Boff, Division I)

**222. History of Economic Thought** Examination of the Mercantilists, the Physiocrats, Smith, Malthus, Ricardo, Marx, Mill, Marshall, and Keynes. Emphasis on the development of economic theory; also economic growth and the stationary state, value and distribution, and the role of the state. Prerequisites: Economics 101, 102 or consent of instructor. (Du Boff, Division I)

**224. Economic History and Growth, 1750-1980** The development of the international market economy from the Industrial Revolution to World War II and its aftermath, with focus on Great Britain, France, and Germany. Topics include causes of economic growth and underdevelopment, the spread of industrialization and technological modernization, large-scale business enterprise, foreign trade, and political power. Prerequisites: Economics 101, 102 or consent of instructor. (Du Boff, Division I)

**225. Developing Economies** Analysis of the structural transformations of developing economies. Causes and role of savings, investment, skill, technological change and trade in the development process; strategies and methods of economic planning. Prerequisites: Economics 101, 102. (Staff, Division I)

**228b. Economics of United States' Third World Peoples** at Haverford. (Dixon, Division I; not offered in 1989-90)

**230-249. Topics in Economics** Courses in the 230-249 series deal with contemporary problems from the economist's viewpoint. They are offered, as demand and staffing permit, in the areas listed below. Students should consult the instructor about prerequisites. (Staff, Division I)

**231. Marx and Radical Political Economy**

**232. Latin American Economic Development**

**234. Environmental Economics**

**237. The Political Economy of Military Spending**

**238. Economic Development of Pacific Asia**

**300. Intermediate Microeconomic Analysis** Systematic investigation of the analytical framework underlying the behavior of consumers and firms. Determination of price; partial and general equilibria; efficiency and equity. Application to current economic problems. Prerequisites: Economics 101, 102 and Mathematics 101 or equivalent. (Sjoblom, Newburger)

**302. Intermediate Macroeconomic Analysis** Theoretical foundations of income determination, monetary phenomena, and fluctuations in price levels and employment; introduction to dynamic process; economic growth. Prerequisites: Economics 101, 102 and Mathematics 101 or equivalent. (Hunter)

**304. Introduction to Econometrics** The econometric theory presented in Economics 203 is further developed and its most important empirical applications are considered. Each student does a six-week empirical research project using multiple regression and other statistical techniques. Prerequisites: Economics 203 and Mathematics 101 and consent of instructor. (Hunter, Newburger)

**306. Advanced International Economic Policy** Advanced models of economic integration; trade and economic change in developed and developing economies; foreign capital movements; exchange rate determination. Prerequisites: Economics 206 and 216. (Farley)

**307. Advanced Economic Theory** at Haverford. (Staff)

**314. Economics of Poverty and Discrimination** A study of the extent and sources of poverty in the United States and of results of government programs to alleviate it, with emphasis on discrimination against women and minorities. Prerequi-

sites: Economics 101, 102 and 203; 208, 214 or 215 are recommended. (Newburger)

**325. Advanced Economic Development Seminar** Advanced theory and policy with respect to developing economies; analysis of problems relating to the growth and development of third world countries. Topics include agriculture, dual economic structures, rural-urban migration, the informal sector, international trade, and economic planning models. Prerequisite: Economics 206 or 225 or consent of instructor. (Farley)

**330-349. Advanced Topics in Economics** Courses in this series are similar to those in the 230-249 series, but have 200- or 300-level courses as prerequisites. (Staff)

**398, 399. Senior Conference** Weekly seminars for which readings are assigned and reports are prepared. Semester I: microeconomic and economic welfare topics; Semester II: macroeconomic and institutional topics. (Farley, Du Boff)

**403. Supervised Work** An economics major may elect to do individual research, with the approval of the faculty member who acts as supervisor and the department chairman. A semester-long research paper is required; it satisfies the 300-level research paper requirement.

## ENGLISH

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*Professors:*

Robert B. Burlin, Ph.D., *Mary E. Garrett Alumnae Professor*

Thomas H. Jackson, Ph.D.

Joseph E. Kramer, Ph.D. (on leave, Semester II, 1989-90)

*Associate Professors:*

Carol L. Bernstein, Ph.D., *Chairman* (on leave, 1989-90)

Sandra M. Berwind, Ph.D., *Acting Chairman*

Peter M. Briggs, Ph.D.

Katrin Ristkok Burlin, Ph.D.

Susan Dean, Ph.D.

E. Jane Hedley, Ph.D.



*Assistant Professors:*

Diane Elam, Ph.D.

Xavier Nicholas, Ph.D. (on leave, 1989-90)

*Lecturers:*

Anne Dalke, Ph.D.

Christopher Davis, B.A.

Helene Elting, Ph.D.

Maribel Molyneaux, Ph.D.

Jo Ellen Parker, Ph.D.

Karen Tidmarsh, Ph.D.

*Instructors:*

Michelle Friedman, B.A.

Vincent Hausman, B.A.

Kristen Lindgren, M.A.

Bill Mullen, B.A.

Elaine Zickler, M.A.

The department offers an opportunity to explore all periods of English literature and varieties of close analysis. The department seeks to develop in both the major and non-major historical perspective, interpretive acumen, writing skills, and an understanding of the imaginative process.

Requirements in the major subject are English 101 and 102 or its equivalent in preparation; eight second-year or advanced units in English literature, at least two of which must be at the 300 level (two of these units, excluding English 225, 226, must be in literature prior to 1800, and two of these units must be in literature after 1800); and the Senior Essay (English 399), to be done in the final semester of the student's major career.

In consultation with departmental advisers and with the approval of the department, students may offer one unit of appropriate interdepartmental work toward fulfillment of the eight-unit requirement. Alternatively, one unit of creative writing may count toward fulfillment of the unit requirement. Students may also, in consultation with their major advisers, take a portion of their work at Haverford. (The following courses regularly alternate between members of the Bryn Mawr and Haverford departments: 201, 202, 225, 226, 252, 260, 261, 264, 265.)

Although the Department of English does not require allied courses toward the completion of the major, it recog-

nizes that other courses in the humanities are important for rounding out a liberal education or acquiring specific skills in preparation for later work or graduate study. Students who wish advice on allied courses are urged to consult their major adviser.

Students contemplating graduate work in English are reminded that most graduate schools require a reading knowledge of French and German, and frequently Latin as well, for the Ph.D.

Requirements for an English minor are English 101 and 102 or its equivalent and four second-year or advanced units in English literature. At least one unit must be at an advanced (300) level.

## COMPOSITION COURSES

**015, 016. English Composition and Reading** Training in writing discursive prose, with emphasis on the critical analysis of a few works by selected authors. There are weekly papers, two class meetings a week, and regular conferences. (Note: Some sections of this course also meet requirements toward the major in English and other departments. In these sections there are three class meetings a week, as well as more reading.)

## CREATIVE WRITING COURSES

For course descriptions, see Arts Program in this catalogue.

**Arts Program 260. Writing Short Fiction** (Davis)

**Arts Program 261. Writing Poetry** (Davis)

**Arts Program 262. Beginning Playwriting**

## LITERATURE COURSES

**101, 102. Introduction to Literary Study** Through an intensive program of readings in a variety of literary forms from the Middle Ages to the Moderns, this sequence of courses historically and culturally contextualizes literary genres, movements, and traditions. Three hour-long classes a week; four

or five additionally scheduled and required lectures each semester. The sequence is required preparation for the English major and should be taken by prospective majors as early as possible. For non-majors 101 is not a prerequisite to 102. (Staff, Division III)

**103. The Dynamics of Drama** An introduction to the problems, techniques, and pleasures of reading dramatic texts. Close reading of several British and American dramas, chosen from a variety of kinds and periods, is complemented by ancillary critical and theoretical material. (Kramer, Division III; not offered in 1989-90)

**104. Introduction to Poetry** An introduction to the processes of reading and understanding poetry and to methods of critical commentary, beginning with jokes, fairy tales, and nursery rhymes, followed by poems. Topics include the nature of figurative language and the complexities of interpretation. (Jackson, Division III; not offered in 1989-90)

**201, 202. Chaucer and His Contemporaries** Semester I: a close reading of the *Canterbury Tales*. Semester II: Chaucer's early poems and the *Troilus*, with supplementary readings. (R. Burlin, Division III)

**203. Medieval Language and Literature** An introduction to both the language and the major literary works of the English Middle Ages. Review of Old and Middle English grammar and lexicon with emphasis on those elements that affect verse forms. Major literary works are read, for the most part, in translation, with selections in the original for comparison. (Burlin, Division III)

**210. Literature of the English Renaissance I** A survey of literary production in its social and political context focused on works created in the period of rule by the House of Tudor (1485-1603). Authors include More, Wyatt, Sidney, Shakespeare, Nashe, and Deloney. (Hedley, Kramer, Division III)

**211. Literature of the English Renaissance II** A survey of literature up to 1660 focusing on the careers of five or six major authors and covering a broad variety of genres. Authors may include Donne, Jonson, Herbert, Marvell, Bacon, Burton, Browne, and Hobbes. (Staff, Division III)

**221, 222. English Drama to 1642** A chronological survey of drama in England (exclusive of Shakespeare) to the closing of the theaters in 1642, with special attention to theatrical conventions and to the elaboration of specific forms. Semester I: Medieval and earlier Renaissance drama. Semester II: late Elizabethan, Jacobean, and Caroline drama. 221 is not a prerequisite to 222. (Kramer, Division III)

**225, 226. Shakespeare** A survey of the Shakespeare canon. (Kramer, Division III; offered at Haverford in 1989-90)

**240. Restoration and Early Eighteenth-century Literature** The rise of new literary genres and the contemporary efforts to find new definitions of heroism and wit, good taste and good manners, sin and salvation, individual identity and social responsibility; and the pressures exerted by changing social, intellectual, and political contexts of literature. Readings from Dryden, the Restoration dramatists, a few early feminist writers, Defoe, Swift, and Pope. (Briggs, Division III)

**241. Samuel Johnson and His Circle** A broad selection of Johnson's works, together with shorter samplings from Burke, Goldsmith, Boswell, Fanny Burney, Reynolds, and some of Johnson's literary adversaries (MacPherson, Sterne, MacKenzie). (Briggs, Division III)

**247. The Eighteenth-century English Novel** A study of selected novels in the context of relevant eighteenth-century intellectual trends and critical approaches. Authors include Defoe, Richardson, Fielding, Smollett, Sterne, Radcliffe, Burney, Edgeworth, Austen. (Briggs, K. Burlin, Division III)

**250. Interdisciplinary Perspectives on Gender** An examination of those forces that work to reproduce gender divisions with a society from generation to generation, as well as those forces that are challenging gender stratification. "Reproduction" is examined in biological, familial, social, and cultural contexts. Topics vary each year; the course carries major credit in English depending on topic. (Hedley, Shapiro)

**252. The Romantic Movement** Introduction to the major Romantic poets: Blake, Coleridge, Wordsworth, Byron, Shelley, Keats. Study of the central texts in light of the emerging poetics and the distinctive ideas of the age. (Bernstein, Division III)



**260, 261. American Literature to 1915** Semester I: selected readings in American texts from the earliest times to the Civil War period, including American Indian oral literature, colonial writers, writings from the Revolutionary period, slave narratives, writings by various nineteenth-century Romantics such as Poe, Emerson, M. Fuller, Thoreau, Hawthorne, Melville, Whitman, and Stowe. Semester II: selections from the Civil War to World War I, including Whitman, Dickinson, Twain, James, Jewett, Chopin, Gilman, Cather, Wharton, Chesnutt, Washington, DuBois, S. Crane, Dreiser, M. Austin. 260 is not a prerequisite for 261. (Dean, Nicholas, Division III)

**262. African American Literature** An introduction to the study of the literature of black American writers. (Nicholas)

**264, 265. American Literature, 1915 to the Present** Semester I: selected prose and poetry written between World Wars I and II, emphasizing the varieties—regional, gender, racial, individual—within the phenomenon known as “modernism.” Texts by prose writers such as S. Anderson, Hemingway, Stein, Fitzgerald, H. Miller, Faulkner, J. Toomer, Black Elk, R. Wright, Hurston; and by poets such as Frost, Stevens, M. Moore, H. D., L. Hughes, Hart Crane, Williams. Semester II: selected prose and poetry written from World War II to the present. Texts by prose writers such as Welty, Ellison, F. O'Connor, Updike, Bellow, Nabokov, Baldwin, Malcolm X, Pynchon, Mailer, Morrison, Lowell, Ammons, Momaday, Snyder, O'Hara, Ashbery, Merrill, G. Brooks, Plath, Rich, Levertov, Clampitt. 264 is not a prerequisite for 265. (Dean, Nicholas, Division III)

**266. The Southern Renaissance** A study of the flowering of writing by Southern authors since the year 1920, comparing and contrasting the attitudes and concerns of Southern writers who began to publish after World War I with the new generation of Southern writers who began to publish after World War II. (Nicholas, Division III)

**267. Slave Narratives** A study of slave narratives written during the American Renaissance (1830-1860) and their relationship to representative works of the period, such as Herman Melville's *Benito Cereno*. (Nicholas, Division III)

**274. Contemporary Fiction** A survey of major authors of fiction, mid-century and after, covering English, American,

and Commonwealth writers of novels and short stories: Doris Lessing, Eudora Welty, Alice Walker, Gail Godwin, Saul Bellow, John Barth, Chinua Achebe, and Vladimir Nabokov, among others. (Jackson, Division III)

**275, 276. Modern Literature** Modern literature in its relationship to earlier literary and intellectual traditions, principal themes, and technical achievements, seen through the study of such writers as James, Conrad, Lawrence, Joyce, Yeats, Williams, Woolf, Stevens, Pound, Eliot. (Berwind, Jackson, Division III)

**277. Nabokov in Translation** A study of Nabokov's "perverse" aesthetics. Topics include the hidden plots under the surface of Nabokov's fiction, the ongoing contest between the author and his writer-heroes, and the roots of Nabokov's poetics in Western and Russian literary traditions. The continuity between the Russian and English works of this bilingual and bicultural writer is also considered. All readings and lectures in English. (Ljunggren, Division III; cross listed as Russian 277)

**278. Contemporary Poetry** A survey of work by leading poets since the death of Pound and Williams. Various "schools" and movements in America and England are examined, emphasizing their philosophical and creative orientation and their relationship to their literary forerunners. Poets include Allen Ginsburg, James Merrill, Nikki Giovanni, A. R. Ammons, John Ashbery, Ted Hughes, Denise Levertov, and Adrienne Rich. (Jackson, Division III)

**279. Modern African Fiction** Works by African writers since liberation in Kenya, Nigeria, Ghana, and elsewhere. Authors include Achebe, Soyinka, Abrahams, Lessing, and Tutuola. (Jackson, Division III)

**282. The Lyric** Instruction in the analysis of short poems from different periods. Emphasis on the identification and negotiation of the verbal structures—prosodic, rhetorical, figurative—by which poems express their meaning, with some attention to critical theory. (Berwind, Hedley, Division III)

**283. The Urban Novel** A study of the central role played by the representation of cities in fiction. Topics include the characteristics of the urban novel, its relations to gender and class, the pressure of urbanization on the form of the novel,

and the special poetics it engenders. Readings emphasize nineteenth century novels but also include historical and theoretical texts. (Bernstein, Elam, Division III)

**284. Giving Eurydice a Voice** The work of several women poets of the nineteenth and twentieth centuries is considered to bring into focus what might be called a feminist poetic. Poets studied include Elizabeth Barrett Browning, Emily Dickinson, Christina Rossetti, Gertrude Stein, H. D., Marianne Moore, Gwendolyn Brooks, Denise Levertov, Adrienne Rich, Anne Sexton, Sylvia Plath, Audre Lorde, Margaret Atwood. (Hedley, Division III)

**285. Modern British Drama** Readings from Wilde, Shaw, Beckett, Pinter, Stoppard, Orton, Churchill. (R. Burlin, Division III)

**286. The Language of Drama** A study of dramatic language and plays "about" language. Readings from the English drama of the last four centuries. (R. Burlin, Division III)

**287. The Dynamics of Drama** A study of the special characteristics of dramatic texts and the challenges they present for interpretation. The close analysis of several primary works, and a series of ancillary readings drawn from the work of theoreticians of drama, creatively practical workers in theater, and critics. (Kramer, Division III; not offered in 1989-90)

**292. Introduction to Literary Theory** Introduction to the study of literary theory and criticism. Topics vary; recent topics have included feminist literary theory and Marxist critical theory. (Staff, Division III)

**293. The Play of Interpretation** A study of the processes and ends of interpretation in the humanities and social sciences, a survey of common problems, and the attempt to discover common frameworks and approaches to texts. An examination of factors central to interpretations, such as conceptions of text, author, and reader; followed by the exploration of the role of description, metaphor, and writing, as well as such concepts as structure and history; and concluding with a study of the models offered by hermeneutics, structuralism, and post-structuralism. Although the reading is confined to recent texts, these texts point to their origins in earlier writing and raise questions about interpretive issues in other disciplines. (Staff, Division III; cross listed as Philosophy 293)

**296. Continuities: Soap-Opera and Novel Sequence** A study of the extended "continuing" narrative in "pop" and "high" cultural artifacts, in television drama, and in serial and multiple novels. Theoretical consideration of narrative structure, the semiotics of the various media, and concepts of time implicated in the works. (R. Burlin, Division III; not offered in 1989-90)

**300, 301. Old English Literature** Semester I: a brief introduction to the language and some reading of prose followed by readings of short lyrics and questions of Old English poetic style. Semester II: a careful study of the textual and critical problems of *Beowulf*. Semester II cannot be taken unless the student has had prior training in the language. (R. Burlin; not offered in 1989-90)

**302. Middle English Literature: The Alliterative Tradition** Pearl, Sir Gawayn and The Green Knight, Piers Plowman. (R. Burlin)

**303. Middle English Literature** Romance. Readings in Middle English of stanzaic and alliterative romances (mostly Arthurian) and Malory. (R. Burlin)

**307. The History of the English Language** After a brief introduction to the history of the language, attention is directed to practical and theoretical problems with special reference to the English language. (R. Burlin; not offered in 1989-90)

**315. Sixteenth-century Chivalric Romance** The entire semester is devoted to Sidney's *Arcadia* and Spenser's *Faerie Queene*. (Hedley)

**316. The Poetry of Spenser** *The Shepherd's Calendar* and *The Faerie Queene*. In connection with these poems, the ideals and conventions of heroic and pastoral poetry are examined. (Hedley)

**323. Tragic Drama of the English Renaissance** A study of the formal characteristics of tragic drama of the period; the consideration of cultural implications and the attempt to generate appropriate theoretical discourse through intensive work with selected primary and dramatic texts and ancillary non-dramatic and theoretical material. The precise focus of the course changes from year to year. (Kramer; not offered in 1989-90)



**324. Advanced Study of Shakespeare** Topics vary from year to year; the course supposes significant prior experience of Shakespearean drama and/or non-Shakespeare Renaissance drama. (Kramer)

**326. Theater of Ben Jonson** The fullness of Ben Jonson's career as professional dramatist, writer of Court Masques, poet, critic, and translator is studied intensively. (Kramer; not offered in 1989-90)

**331. Milton** A study of the poetry and prose with particular emphasis on the major poems: *Paradise Lost*, *Paradise Regained*, and *Samson Agonistes*, with attention to the social context of Milton's writing and to his importance for later poetry. (Division III)

**333. The Metaphysical Poets** Readings in Donne, Herbert, Vaughan, and Marvell. Primary emphasis on the analysis of a body of complex poetry, with some consideration of the significance of the "metaphysicals" as a guide to problems of Renaissance literary taste and modern canonical valuations.

**350. The Romance of the Self** A study of the romantic quest for the self in philosophy and literature at the turn of the nineteenth century. Topics include self-identity and poetic vocation, Romantic theories of language and of the sublime, the emergence of new modes of writing, and the relation between philosophy and literature in light of both traditional distinctions and contemporary questioning of those distinctions. Authors include Wordsworth, Shelley, Keats, Schiller, Kleist, Novalis, and Holderlin; Hume, Kant, Fichte, Barthes, Benjamin, Bloom, de Man, and Foucault. (Bernstein, K. Wright)

**352. Romanticism and Interpretation** Problems of interpretation, from such perspectives as language and myth, in the work of writers in the Romantic tradition. Readings from Coleridge, Wordsworth, Shelley, Keats, Mary Shelley, Emily Bronte, and Hopkins, as well as seminal modern texts on the Romantics. (Bernstein; not offered in 1989-90)

**357. Readings in Thomas Hardy** A study of Hardy's short fiction, novels, critical essays, autobiography, lyrics, and drama with emphasis on the unity of imagination underlying the variety of expressions. (Dean)

**358, 359. Women of Talents** A close scrutiny of novels, famous and "obscure," written in English by women from the eighteenth through twentieth centuries, with special emphasis on identifying and defining "female aesthetics" and associated ethics. Readings include novels by Austen, Burney, Bronte, Woolf, Lessing, Atwood, Drabble, E. Taylor, Kingston, Emecheta, Munro. (K. Burlin)

**363. Walt Whitman and American Poetry** A study of selected nineteenth- and twentieth-century American poets, using as point of entry Whitman's 1855 declaration that modern readers require a poetry whose form indicates "the path between reality and their souls." A consideration of the "paths" implied in the forms (rhyme, fluency, ornament, and underlying image) laid out between the realities and the souls of such nineteenth-century poets as Poe, Emerson, Whitman, and Dickinson; and such twentieth-century poets as Plath, Bishop, O'Hara, and Ashbery, and of a contemporary poet of the student's own choosing. (Dean)

**364. Writing Democracy: The Melville-Whitman Debate** An intensive reading of texts by Melville and Whitman, chosen to enable the identification of their political sympathies and opinions, their changing sense of the American public, their aesthetic strategies, and their shifting perceptions of the ideal of "equal human worth" that both were committed to imaginatively. Readings include *Moby Dick* and *Leaves of Grass* as well as the less well known genres in which each worked (private letters, prefaces, essays, poems by Melville; prose fiction by Whitman). (Dean)

**365. Writing Lives: American Autobiographies over Three Centuries** A study of a dozen autobiographies that represent American "lives in the making" and that throw into question familiar definitions for "author," "text," "audience," "self," "other," "subject," "insider/outsider," "American," "literature," and, especially, "autobiography." Texts include autobiographies of Mary Rowlandson and John Woolman, Frederick Douglass and Linda Brent, Alice James and Henry Adams, Mamie Pinzer, Black Elk, Richard Wright, Zora Neale Hurston, Mary McCarthy, Norman Mailer, Robert Pirsig, Philip Roth, and an autobiographer of the student's own choosing. (Dean)

**368. Faulkner and the Uses of the Past** A study of Faulkner's major novels, with particular emphasis on novels such as

*Light in August, Absalom, Absalom!*, and *Intruder in the Dust* that deal with black-white race relations in the South. (Nicholas)

**371. The Development of Modern Poetry** The background and early stages of modern poetry, including Imagism and its offshoots. Readings in the early work of Yeats, Pound, and Eliot, and some discussion of the French poetry that influenced them (competence in French helpful but not essential); and in the critical works of A. G. Lehman and Hugh Kenner. (Jackson; not offered in 1989-90)

**375. W. B. Yeats and Wallace Stevens** A study of the relationship between the poetic techniques and critical theories of two modern "philosophical" poets. (Berwind)

**376. Joyce and Lawrence** A consideration, through the analysis of several works by each writer, of the philosophical and political concepts that underlie their modes of fiction, with some attention to their legacy as demonstrated in the work of such writers as Samuel Beckett and Doris Lessing. (Jackson)

**377. James Joyce** A study of the works of James Joyce, including *Exiles*, the poetry and the four prose narratives, which attempts to place Joyce in his own cultural milieu and in the development of modernism and to apply to his work various critical styles, from Kenner to Kristeva, Cixous, and McCabe. (Jackson; not offered in 1989-90)

**382. Theater and Society** A study of dramatic tradition, stagecraft, and theatrical power, both on and off stage, in various historical periods and settings. Topics include not only plays and players, but also the influence of dramatic ways of thinking and imagining upon non-dramatic literature (satire, biography, journalism, the novel) and upon public ceremonials generally. (Briggs; not offered in 1989-90)

**383. The Novel and Society** A study of the relation between the aesthetic form of novels and their claims to represent social or historical reality or to incorporate ideas about society. Readings include a group of novels (primarily from the nineteenth century) that offer diverse perspectives on these issues, as well as critical writing on topics ranging from mimesis to ideology. (Bernstein; not offered in 1989-90)

- 384. Theories of Fiction** A study of the construction, interpretation, and contexts of fiction. Readings include critical texts that exemplify major approaches to fiction (structural, poststructural, sociological), and two or three novels. (Bernstein, not offered in 1989-90)
- 387. Allegory in Theory and Practice** Spenser's *Faerie Queene* is studied for half the semester, for access to the allegorical mode of the Middle Ages and the Renaissance; a working knowledge of several different themes of allegory is developed; nineteenth- and twentieth-century allegories include *The Scarlet Letter*, *The Crying of Lot 49* and *Invisible Man*. (Hedley)
- 388. Poets on Poetry** Theories of the poem since the nineteenth century, with emphasis on the development of modern poetics. Theoretical writings and poetic examples by Poe, Wordsworth, Shelley, Pater, Yeats, Pound, Williams. Philosophical readings in Bergson, T. E. Hulme, and others. (Jackson; not offered in 1989-90)
- 389. Philosophies of Literature** The development of modern English literary thought, beginning with Coleridge and Arnold as (respectively) psychological and moral critics, and tracing the course of both expressionist and systematic or "scientific" criticism in such modern figures as I. A. Richards, Susanne Langer, R. B. Collingwood, and Northrop Frye, among others. This course carries major credit in philosophy. (Jackson; not offered in 1989-90)
- 391. Linguistics and Literary Criticism** A study of three controversial twentieth-century language theorists (Saussure, Austin, Whorf) and their usefulness to practical literary criticism. (R. Burlin)
- 393. Interpretive Strategies** The study of a group of theoretical works that are not themselves conventional literary critical texts, in order to discover new perspectives for the interpretation of literature. Nineteenth- and early twentieth-century foundations in the writings of Freud, Nietzsche, and Saussure, followed by works that engage in forms of dialogue with the earlier texts; writers include Barthes, Benjamin, Derrida, Foucault, and Lacan. (Bernstein)



**399. Independent Work: The Senior Essay** Planning for the senior essay is normally done in the semester prior to the student's final semester, when the essay is written. (Staff)

Haverford College offers the following courses in English:

**220a. The English Epic**

**225a. Shakespeare: Tragedies and Tragi/Comedies**

**260a. In the American Grain: Traditions in American Literature**

**287a. Literature and Medicine**

**299a. Junior Seminar** (For Haverford English majors only)

**354a. Topics in British Literature: Poverty and Its Representation in Victorian England**

**367a. Topics in American Literature: Contemporary Women Writers**

**377. Topics in British Literature: Third World Literature**

## **FINE ARTS**

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**At Haverford College**

*Professors:*

Charles Stegeman, Academie Royale des Beaux Arts  
(Brussels), *Chairman*

R. Christopher Cairns, M.F.A.

William E. Williams, M.F.A.

*Visiting Assistant Professor:*

Deborah Richert, M.F.A.

The fine arts major at Haverford is complemented with graphics courses offered at Bryn Mawr. The aims of the

courses in fine arts are dual. For students not majoring in fine arts these courses aim to develop the visual sense to the point where it increases human perception, and to present the knowledge and understanding of all art forms and their historical context. For students intending to major in fine arts these courses are also intended to promote thinking in visual terms and to foster the skills needed to give expression to these in a form of art.

Fine arts majors are required to concentrate in either painting, sculpture, photography, or graphics. Fine arts 101; two 200-level courses outside the area of concentration; two 200-level and one 300-level course within the area of concentration; 499; three history of art courses to be taken at Bryn Mawr are required.

Honors are awarded to majors who show exceptionally high attainment in their course work and whose final exhibition is of superior quality.

**101. Fine Arts Foundation Program** Drawing, painting, photography, sculpture, graphic arts. Each subject is an introductory course dealing with the formal elements characteristic of the particular discipline as well as the appropriate techniques. Part of the work is from life model in drawing, painting, and sculpture. The course is structured so that students experience the differences as well as the similarities between the various expressions in art, thus affording a "perspective" insight into the visual process as a basis for artistic expression. (Staff)

**223a, b. Painting: Materials and Techniques** Thorough examination of the problems of form, color, texture and their relationships; influence of the various painting techniques upon the expression of a work; the characteristics and limitations of the different media; control over the structure and composition of a work of art; and the relationships of form and composition, color and composition. Prerequisite: Fine Arts 101 or consent of instructor. (Stegeman)

**231a, b. Drawing (2-D) All Media** Various drawing media such as charcoal, conté, pencil, ink, and mixed media; the relationship between media, techniques, and expression. Students are exposed to problems involving space, design, and composition as well as "thinking" in two dimensions. Part of the work is from life model. Prerequisite: Fine Arts 101 or consent of instructor. (Stegeman)

**241a, b. Drawing (3-D) All Media** Treatment in essence of the same problems as Fine Arts 213a, b. However, some of the drawing media are clay modeling in half-hour sketches; the space and design concepts solve three dimensional problems. Part of the work is done from life model. Prerequisite: Fine Arts 101 or consent of instructor. (Richert, Cairns)

**243a, b. Sculpture: Materials and Techniques** The behavior of objects in space, the concepts and techniques leading up to the form in space, and the characteristics and limitations of the various sculpture media and their influence on the final work; predominant but not exclusive use of clay modeling techniques; fundamental casting procedures. Part of the work is done from life model. Prerequisite: Fine Arts 101 or consent of instructor. (Richert, Cairns)

**251a, b. Photography: Materials and Techniques** The use of photography to record and express information and emotion; basic camera techniques and black/white processing with emphasis on the creation of prints. Prerequisite: Fine Arts 101 or consent of instructor. (Williams)

**261b Drawing and Design** General considerations in design—the use of line, shape, texture, value, and color in two dimensional works—are explored through analysis of master-works and completion of studio problems. Most design problems are explored in the context of drawing. Prerequisite: Fine Arts 101 or consent of instructor. (Richert)

In the following Experimental Studio courses the advanced student is encouraged to try new ideas and develop a personal expression based on a sound knowledge of painting, sculpture, photographic or lithographic techniques.

**333a, b. Experimental Studio (Painting)** Prerequisite: Fine Arts 223a or b or consent of instructor. (Stegeman)

**343a, b. Experimental Studio (Sculpture)** Prerequisite: Fine Arts 243a or b or consent of instructor. (Richert, Cairns)

**351a, b. Experimental Studio (Photography)** It is expected that students already have a sound knowledge of painting, sculpture, or photography techniques, and are at the stage where personal expression has become possible. Prerequisite: Fine Arts 101, 251 and consent of instructor. (Williams)

For fine arts at Bryn Mawr, see Arts Program, page 97.

## FRENCH

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*Professors at Bryn Mawr:*

Michel Guggenheim, Ph.D.

Catherine Lafarge, Ph.D., *Dean of the Graduate School of Arts and Sciences and Acting Chairman Semester II, 1989-90*

Mario Maurin, Ph.D., *Eunice Morgan Schenck 1907 Professor (on leave, Semester II, 1989-90)*

*Associate Professor at Bryn Mawr:*

Grace M. Armstrong, Ph.D., *Chairman (on leave, Semester II, 1989-90)*

*Assistant Professor at Bryn Mawr:*

Janet Doner, Ph.D.

*Assistant Professor at Haverford:*

Frances Stokes Hoekstra, Ph.D.

*Lecturer:*

Vinni Datta, Ph.D.

*Instructors at Bryn Mawr:*

Roseline Cousin, M.A.

Florence Echtman, M.A.

*Visiting Instructors at Haverford:*

Frances Bright, M.A.

Duane Knight, M.A.

### **Affiliated Faculty**

J. H. M. Salmon, Litt.D., *Professor of History at Bryn Mawr*

Alain Silvera, Ph.D., *Professor of History at Bryn Mawr*

The major in French includes work in both literature and language (track I), as well as work in French history, language, and civilization for those who wish to offer an interdiscipli-



nary concentration (track II). In the 100-level courses, students are introduced to the study of French literature and culture, and special attention is given to the speaking and writing of French; 200-level courses treat French literature from the beginning to the present day. In these courses, students whose command of French is inadequate are expected to attend regular sessions devoted to special training in speaking and writing French. Two 200-level courses are devoted to advanced language training, with practice in spoken as well as in written French.

Advanced (300-level) courses offer detailed study either of individual authors, genres, and movements (track I) or of particular periods, themes, and problems in French culture (track II). In both tracks, students are admitted to advanced literature courses after satisfactory completion of two semesters of 200-level courses in French literature.

Students in all courses are encouraged to make use of the language laboratory. In French 001, 002, 003, 004, 212, and 260, the use of the laboratory and intensive oral practice in small groups directed by a department assistant form an integral part of the course. French majors find it valuable to supplement the work done at Bryn Mawr and Haverford by study abroad either during the summer at the *Institut* in Avignon or during the sophomore or junior year.

All students who wish to pursue their study of French must take a placement examination upon their entrance at Bryn Mawr and Haverford. Those students who begin French have two options: intensive study of the language in the intensive sections offered at Bryn Mawr (the sequence 001, 002 Intensive Elementary, 005 Intensive Intermediate, and either 102 Introduction to Literary Analysis or 105 Directions de la France contemporaine), or non-intensive study of the language at Bryn Mawr and Haverford in the non-intensive sequence (001, 002; 003, 004; 101, 102 or 105). In either case, students who pursue French to the 200 level are encouraged to take as their first 200-level course either 212 Advanced Training in French or 260 Stylistique et traduction.

Requirements in the major subject are (1) *Literature concentration, Track I*: French 101 and 102, French 212 or 260, four semesters of 200-level literature courses, two semesters of 300-level literature courses, and the two-semester Senior Conference in literature.

(2) *Interdisciplinary concentration, Track II*: French 101 and 102 or 105; French 212 or 260; French 291 and 296; two 200- or 300-level French literature courses; two 200- or 300-level French history courses (at least one of which must be at

the 300 level); one semester of Senior Conference in French history, and one semester of Senior Conference in French literature. The following French history courses are cross-listed in the Departments of French and History at Bryn Mawr: 228: The Enlightenment (note also History 357: Topics in European Intellectual History: The French Enlightenment, at Haverford); 297: History in the Romantic Epoch; 328, 329: Topics in Modern European History: The French Revolution; 330, 331: France Since 1870; 345: Valois France and Tudor England; 346: Bourbon France and Stuart England. French 291: La civilisation française serves normally as the introductory course for French Track II, but a comparable course taken in France during the junior year abroad, or at the Avignon *Institut* during the summer, may be substituted.

(3) *Both concentrations*: Students whose preparation for college has included advanced work in language and literature may, with the consent of the department, substitute a more advanced course for French 101, 102. Occasionally, students may be admitted to seminars in the graduate school. Particularly well-qualified students may undertake work toward the joint A.B./M.A. degree in French. Such a program may be completed in four or five years and is undertaken with the approval of the department and of the dean of the Graduate School of Arts and Sciences.

Undergraduates who have excelled in the French major may be invited by the department to do honors during the two semesters of their senior year.

All French majors are expected to have acquired fluency in the French language, both written and oral. Unless specifically exempted by the department, they are required to take French 212 or 260.

Requirements for a French minor are French 101, 102; French 212 or 260; and four 200-level or 300-level courses in French literature. At least one course must be at the 300 level. The minor is not available at Haverford.

Students majoring in French may, by a joint recommendation of the deans of the Colleges and the Department of French, be allowed to spend their junior year in France under one of the junior year plans approved by their respective college: those organized by Sweet Briar, Swarthmore and Wellesley Colleges, and New York University are approved by both Colleges, and additional programs are accepted by Bryn Mawr.

Students wishing to enroll in a summer program may apply for admission to the *Institut d'Etudes françaises d'Avignon*, held under the auspices of Bryn Mawr. The

*Institut* is designed for selected undergraduates and graduate students with a serious interest in French culture, most particularly for those who anticipate professional careers requiring a knowledge of the language and civilization of France. The curriculum includes general and advanced courses in French language, literature, social sciences, history, and art. The program is open to students of high academic achievement who have completed a course in French at the third-year level or the equivalent.

Students of French are also encouraged to take advantage of the many opportunities offered on both campuses for immersion in the language and culture of France: the total immersion workshop in French held in August, under the direction of Professor Hoekstra at Haverford; residence in the French House in Haffner at Bryn Mawr; the weekly film series, alternating between the two campuses; and the weekly Table française at Haffner, Bryn Mawr, and the Dining Center, Haverford.

The Department of French, in conjunction with the Department of Human Development of Bryn Mawr, offers a certification program in secondary teacher education. For more information, see the description of human development in the Bryn Mawr catalogue.

**001, 002. Elementary French** The speaking and understanding of French are emphasized particularly during the first semester. The work includes regular use of the language laboratory and is supplemented by intensive oral practice sessions three or four times a week. The course meets in intensive (nine hours each week) and non-intensive (six hours each week) sections. This is a year-long course; both semesters are required for credit. (Doner, Cousin, Echtman, Hoekstra)

**003, 004. Intermediate French** The emphasis on speaking and understanding French is continued, texts from French literature and cultural media are read, and short papers are written in French. Students use the language laboratory regularly and attend supplementary oral practice sessions. The course meets in non-intensive (three hours each week) sections. This is a year-long course; both semesters are required for credit. (Cousin, Datta, Echtman, Kight)

**005. Intensive Intermediate French** The emphasis on speaking and understanding French is continued; literary and



cultural texts are read, and increasingly longer papers are written in French. In addition to the three class meetings each week, students develop their skills in an additional group session with the professors and in oral practice hours with assistants. Students use the language laboratory regularly. This course prepares students to take 102 or 105 in Semester II. Open only to graduates of Intensive Elementary French or to students specially placed by the department. (Datta, Doner, Kight)

**101, 102. Introduction to Literary Analysis** Presentation of essential problems in literary analysis by close reading of works selected from various periods and genres (drama, poetry, novels, and short stories). Participation in discussion and practice in written and oral expression are emphasized. This is a year-long course; both semesters are required for credit. (Guggenheim, Hoekstra, Kight, Maurin, Division III)

**105. Directions de la France contemporaine** An examination of contemporary society in France and Francophone cultures as portrayed in recent literature and film. Emphasizing the tension in contemporary French-speaking societies between tradition and change, the course focuses on subjects such as family structures and the changing role of women, cultural and linguistic identity, an increasingly multiracial society, the individual and institutions (religious, political, educational), and "les loisirs." In addition to the basic text and review of grammar, readings are chosen from newspapers, contemporary literary texts, magazines, and they are complemented by video materials. Offered in Semester II. Prerequisite: French 005 or 101. (Cousin, Datta)

**201. Le chevalier, la dame et le prêtre: littérature et publics du Moyen Age** A study, through selected works read in modern French version, of the principal literary genres of medieval literature: saint's life, epic, *lai*, *roman courtois*, *fabliau*, lyric poetry, religious and secular drama, and historical romances. (Armstrong, Division III)

**202. The Renaissance** A study of the development of Humanism, the concept of the Renaissance, and the Reformation. The course focuses on representative works, with special attention given to the prose of Rabelais and Montaigne, the *Conteurs*, the poetry of Marot, Scève, the Pléiade, and d'Aubigné. (Bright, Division III)



**203. Baroque et classicisme** Representative authors and literary movements, with special attention to the concepts of the Baroque, the development of tragedy (Corneille, Racine), and the Age of Classicism. (Bright, Division III)

**204. Le Siècle des lumières** Representative texts of the Enlightenment and the pre-Romantic movement, with emphasis on the development of liberal thought as illustrated in the *Encyclopédie* and the works of Montesquieu, Voltaire, Diderot, and Rousseau. (Guggenheim, Lafarge, Division III)

**205. Du Romantisme au Naturalisme: Studies in French Prose** From Chateaubriand and Romanticism to Zola and Naturalism, a study of selected novels and plays. (Maurin, Division III)

**206. Les maîtres de l'époque moderne: missionnaires et cannibales** A study of selected works illustrating the principal literary movements from the turn of the century to the present. Gide, Proust, Valéry, Claudel; Surrealism, Existentialism, the Theater of the Absurd, the New Novel. (Guggenheim, Maurin, Division III)

**207. The Novel from Laclos to Proust** The rise of the modern novel in France from the late eighteenth century to the early twentieth century with particular attention to Balzac, Stendhal, Flaubert, Zola, and Proust. (Staff, Division III)

**208. Nineteenth-century Lyric Poetry** The lyrical rebirth of the nineteenth century: Vigny, Hugo, Baudelaire, Rimbaud, Verlaine, Mallarmé. (Maurin, Hoekstra, Division III)

**212. Advanced Training in French Language** A general review of the most common difficulties of the French language, with intensive drill in syntax patterns and vocabulary. Practice in composition, conversation, and diction. (Cousin, Guggenheim)

**215. Solitaires et étrangers du Grand Siècle aux Temps Modernes** This course focuses on the individual (Molière's misanthrope, the picaresque hero, the romantic egotist, Camus' stranger, and Beckett's vagabond), from withdrawal or reverie to alienation and/or revolt, in quest of identity as seen in works representing a variety of interactions with society. (Guggenheim, Division III)

**220. Surréalisme et dadaïsme** A study of surrealism and dadaism both as historical movements and as a state of mind. Readings are chosen from among the works of Tzara, Vitrac, Breton, Eluard, Aragon, Desnos, Soupault, and Péret, with some attention to artists such as Dali, Magritte, Ernst, Tanguy, Picabia, and Duchamp. (Maurin, Division III)

**246. Women in the Middle Ages** A study of women in selected societies of medieval Europe (from Rome to Early Renaissance) with particular attention to the historical activities and literary portrayal of women in the twelfth century. May be offered for French Track II major. (Armstrong and Brand, Division III; cross listed as History 246)

**260. Stylistique et traduction** Intensive practice in speaking and writing. Conversation, discussion, advanced training in grammar and stylistics, translation of literary and non-literary texts, and original composition. (Armstrong, Cousin, Doner)

**291. La Civilisation française** A survey of French cultures and society from the Revolution to de Gaulle's Republic; conducted in French. Prerequisites: French 101 and 102 or 105. May be offered for French Track II major. (Datta, Guggenheim, Division III; cross listed as History 291)

**295. Paris in the Seventeenth and Eighteenth Centuries** A study of the geography, architecture, economics, sociology, and politics of Paris in these two periods. (Lafarge, Division III; offered on demand)

**296. Littérature, Histoire, et société de la Renaissance à la Révolution** A study of the historical background of French literature and the evolution of French society, as seen in a selection of poems, plays, novels, essays, memoirs, letters, and public addresses, from Rabelais to Robespierre. Conducted in French; serves as the introductory course for French Track II majors. (Guggenheim, Division III)

**297. L'Histoire à l'époque romantique** The romantic vision of French history in the generation following Napoleon, emphasizing the works of professional historians, writers of historical drama, and historical novelists. Among authors to be discussed are Guizot, Thierry, Vigny, Mérimée, and Hugo. Partly conducted in French. May be offered for French Track II major. (Salmon, Division III; cross listed as History 297)

**301. Le récit courtois** A synchronic study of the earliest metric courtly narrations (anonymous *lais* and those of Marie de France as well as romances of Chrétien de Troyes) with the purpose of identifying the main narrative structures and motifs and examining the clerkly narrator's *persona* as well as gender roles; followed by a diachronic consideration of the development of prose from verse romances, the transformation of the artist narrator into historian and of human love to divine, and the changes wrought thereby on woman's roles in these later fictions. (Armstrong; offered on demand)

**302. La Pléiade** (offered on demand)

**306. Le roman au XVIIIe siècle** A close study of works representative of the eighteenth-century French novel, with special attention to the memoir novel (Marivaux and Prévost), the philosophical novel (Diderot and Voltaire), and the epistolary novel (Rousseau, Laclos, and Rétif de la Bretonne). (Lafarge; offered on demand)

**307. Marivaux et Giraudoux** Representative works of fiction and drama are read and examined closely in an attempt to bring out the similarities between the two authors. Their concept of "préciosité" receives particular emphasis. (Lafarge; offered on demand)

**308. Baudelaire** A study of the *Fleurs du Mal* and the *Petits Poèmes en prose*, with emphasis upon the *modernité* of themes and techniques. Attention is also given to the *Paradis artificiels* and a selection of Baudelaire's critical writings as primary sources of later definitions of the nature and function of the symbol in poetry and other arts. (Maurin; offered on demand)

**309. Verlaine, Rimbaud** A close study of the major works of the two poets, with special attention to their distinctive evolution, treatment of archetypal themes and images, and experiments with poetic form and language. Discussion of Verlaine and Rimbaud in the light of modern critical theory is included, but primary emphasis is on texts and the concept of poetry they reveal. (Maurin; offered on demand)

**310. Du symbolisme au naturalisme** The emergence and development of the two principal literary movements that highlight the period 1865-1890 in French letters. Although apparently antithetical, symbolism and naturalism are closely

related and are part of larger trends that manifest themselves in the other arts. Readings encompass lyric poetry, drama, and the novel. (Maurin; offered on demand)

**311. Le Théâtre du vingtième siècle** A close examination of selected works of major French dramatists from Claudel to Beckett and Genet, with emphasis on the dialectic of heroism and nihilism, tradition and revolt in the vision of the theater as an art form, and innovative techniques of stagecraft. Special attention is given to twentieth-century adaptations of Greek myths, the influence of surrealism and existentialism, *le théâtre de l'absurde*, and the diversity of the contemporary *avant-garde*. (Guggenheim)

**311a or b. Advanced Topics in French Literature** (Hoekstra)

**313. Poètes du XXe siècle** (Maurin)

**314. Gide et Sartre** A survey of representative works by these two writers, with particular emphasis on Gide's fiction and Sartre's concept of the relationship between literature and action. (Maurin; offered on demand)

**315. Femmes écrivains du XXe siècle: George Sand, Colette, Simone de Beauvoir** A study of the fiction of these three major women writers, each of whom addressed some of the issues of feminism but were more largely concerned with the problem of identity at the height of the Romantic era, *La Belle Epoque*, and the Age of Existentialism. (Maurin, Division III; offered on demand)

**328, 329. Topics in Revolutionary Europe, 1789-1848** Semester I: the French Revolution and Napoleon. Semester II: selected topics in liberalism, nationalism, and socialism up to the Revolution of 1848. May be offered for French Track II major. (Silvera; cross listed as History 328, 329)

**330, 331. France Since 1870** A study of the French national experience from the Paris Commune to the student revolt of 1968 with particular emphasis on institutional and intellectual developments under the Republic. May be offered for French Track II major. (Silvera; cross listed as History 330, 331.)

**350. Voix médiévales et échos modernes** A study of selected nineteenth- and twentieth-century works inspired by medie-



val subjects, such as the Grail and Arthurian legends or Eve-Mary typology, and by medieval genres, such as the *chanson de geste*, the saints' lives, or the miracle play. Included are works by Hugo, Flaubert, Claudel, Anouilh, France, Suarès, Bonnefoy, Genevoix, Gracq, Yourcenar. (Armstrong)

**352. La Vision de la femme dans la littérature française** The vision of woman in representative French authors from Christine de Pisan to Mme. de Staël. Novels, plays, essays, and poems written by both men and women are studied to illustrate the many variations of that vision during four centuries. (Lafarge; offered on demand)

**353. Autobiographies de Chateaubriand à Sartre** Texts representative of the genre such as Chateaubriand's *Mémoire d'Outre-Tombe*, Stendhal's *La Vie de Henry Brulard*, Vallès' *L'Enfant*, Colette's *Sido*, and Sartre's *Les Mots*. (Guggenheim, Maurin; offered on demand)

**354. Ecrivains engagés de Montaigne à Sartre** A study of the commitment to action of French authors spanning four centuries. Such crises as the Religious Wars, the persecution of Jansenism, absolute monarchy, the rise of the spirit of Enlightenment, the French Revolution, the industrial era, the Dreyfus Affair, pacifism and Resistance in the 1930s and 1940s are examined through selected texts. (Guggenheim; offered on demand)

**355. Techniques narratives** An intensive study of problems in narrative techniques as found in representative examples of romance, novel, *nouvelle*, and short story, with emphasis on the handling of narrative time, the role of the narrator, and the fictional modes of chronical, diary, *mémoires*, and epistolary novel. (Armstrong, Guggenheim; offered on demand)

**355b. Topics in Early Modern European History: The French Revolution** (at Haverford) May be offered for French Track II major. (Offered on demand)

**397. Interdisciplinary Senior Conference** A series of weekly seminars examining the relationship between literature, political theory, and historiography within a selected period. Each student undertakes a special project, which is submitted in writing and defended verbally. There is also a three-hour written examination. (Salmon, Silvera)

398, 399. **Senior Conference in Literature** A weekly seminar on representative works of French literature and the critical response to them followed at the end of the year by an oral *explication* of a French literary text and a four-hour written examination. One research paper each semester. (Lafarge, Guggenheim)

## GEOLOGY

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*Professors:*

Maria Luisa Crawford, Ph.D., *William R. Kenan, Jr. Professor*  
William A. Crawford, Ph.D.  
Lucian B. Platt, Ph.D.  
William Bruce Saunders, Ph.D., *Chairman*

*Assistant Professor:*

Kevin M. Wilson, Ph.D.

The department seeks to make students more aware of the physical world around them and of its development through time. The subject includes a study of the materials of which the world is made; of the physical processes which have formed the earth, especially near the surface; of the history of the earth and its organisms; and of the various techniques necessary to investigate earth processes and history. Each introductory course is designed to cover a broad group of topics from a different perspective. Students may elect any of the 100-level courses, except that 103: Environmental Geology may not be taken after 101: Physical Geology. Geology borrows widely from its sister sciences, using many disciplines to investigate problems of the earth. An essential part of any geologic training lies outside the classroom, in field work, which is part of many courses, and of independent research projects.

Fourteen courses are required for the major: Geology 101 or 103, 102 (if 103 is taken, 236 may be substituted for 102 with consent of the instructor), 201, 202, 203, 204; two courses each in two of the following: chemistry, mathematics, physics; Geology 403, and either three advanced geology courses or two advanced geology courses and an additional upper level course in chemistry, mathematics, or physics.

Additional courses in the allied sciences are strongly recommended and are required by most graduate schools. A student who wishes to follow a career in geology should plan to attend a summer field course, usually following the completion of the 200-level courses.

All geology majors undertake a research project (Geology 403) in the fall or spring semester of the senior year. A student may elect to do a longer, two-semester project with the approval of the research adviser. Honors are awarded to students who have outstanding academic records in geology and allied fields, who have completed a full year of independent research on a field or laboratory problem, and whose research work is judged by the faculty of the department to be of the highest quality.

A minor in geology consists of the following courses: 101 or 103, 102 or 236, 201, 202, 203, and 204.

**101. Physical Geology** A study of the materials, structures, and forces in the earth. Both surface and internal processes are covered, with an emphasis on the interactions between these processes using the theory of plate tectonics. Laboratory and field work focus on learning the tools for geological investigations and applying them to the local area. Three lectures, one afternoon of laboratory or field work a week, and a one-day required field trip on a Saturday. (Platt, Division IIL)

**102. Historical Geology** The history of the earth from its beginning and the evolution of the living forms which have populated it. Three lectures, one afternoon of laboratory a week. A required three-day field trip is taken in the late spring. An extra fee is collected for this trip. (Saunders, Division IIL)

**103. Environmental Geology** Investigation of the geological processes that shape the earth and the spectrum of human interactions that modify this natural system. Pertinent issues that affect land use and management of the environment are discussed. These include natural geologic hazards, energy alternatives, waste disposal, and urban planning. Laboratory work focuses on local field trips that emphasize current environmental issues covered in lecture. This course may not be taken after Geology 101. Lecture three hours, laboratory or equivalent field work three hours a week. A required three-day field trip may be taken in the late spring, for which an extra fee is collected. (Crawford, Division IIL)



**201. Crystallography and Optical Mineralogy** The study of geometrical and optical crystallography. Description of the external symmetry of crystalline solids and instruction in the use of the polarizing microscope for use in identifying minerals. Lecture three hours, laboratory three-and-one-half hours a week. Prerequisite: Geology 101 or 103 or Chemistry 101 or 103 and 104. (W. A. Crawford, Division IIL)

**202. Descriptive Mineralogy and Mineral Paragenesis** Descriptive and determinative hand specimen and optical mineralogy. The relation between the physical properties of minerals and their structures and chemical composition. The occurrence and typical associations of minerals. Lecture three hours, laboratory three-and-one-half hours a week. Prerequisite: Geology 201. (W. A. Crawford, Division IIL)

**203. Invertebrate Paleontology** A systematic survey of animal groups in geologic time, with emphasis on their morphology, ecology, and evolution. Lecture three hours, laboratory three hours a week. Prerequisites: Geology 101 or 103 and 102 or consent of instructor. (Saunders, Division IIL)

**204. Structural Geology** Recognition and description of deformed rocks; map reading; introduction to mechanics and patterns of deformation. Lecture three hours, laboratory or field work three hours a week. Prerequisites: Geology 101 or 103, 102, and Mathematics 101. (Platt, Division IIL)

**236. Evolution** The development of evolutionary thought is generally regarded as the most profound scientific event of the nineteenth century. Although its foundations are primarily in biology and geology, the study of evolution and its implications extends to many disciplines. This course emphasizes the nature of evolution in terms of process, product, patterns, historical development of the theory, and its application to interpretations of organic history. Prerequisites: a 100-level science course or consent of instructor. (Saunders, Gardiner, Davis, Yarczower, Schull)

**301. Geochemistry** Principles and theory of various aspects of geochemistry to include elementary thermodynamics and phase diagrams, an introduction to isotopes, geology, Eh-pH relationships, organic geochemistry, weathering processes, and soil formation. Three lectures per week, occasionally augmented by field work. Prerequisites: Geology 201, 202, and Chemistry 101 or 103 and 104 or consent of instructor. (W. A. Crawford)



**302. Aqueous Geochemistry** The geochemistry of natural waters. Emphasis is on low-temperature water-rock interactions. The fundamental principles are applied to natural systems with particular focus on chemical sediments and diagenesis. Three hours of lecture per week and three weekend field trips. Prerequisites: Geology 201, 202, and Chemistry 103, 104 or consent of instructor. (Wilson)

**303. Advanced Paleontology** Principles, theory, and application of various aspects of paleontology such as evolution. Three lectures, three hours of laboratory a week (with occasional field work). Prerequisite: Geology 203 or consent of instructor. (Saunders)

**304. Tectonics** Plate tectonics and continental orogeny are reviewed in light of the geologic record in selected mountain ranges and certain geophysical data. Three lectures and three hours of laboratory or field work a week. Prerequisite: Geology 204. (Platt)

**305. Igneous and Metamorphic Petrology** The origin, mode of occurrence, and distribution of igneous and metamorphic rocks. The focus is on the experimental and field evidence for interpreting rock associations and the interplay between igneous and metamorphic rock genesis and tectonics. Three lectures and three hours of laboratory or equivalent field work a week. Occasional weekend field trips. Prerequisites: Geology 201, 202, and Chemistry 101 or 103 and 104. (M. L. Crawford)

**306. Sedimentology** Introduction to physical sedimentary processes and the petrology of sedimentary rocks. Origin of siliciclastic deposits with emphasis on depositional modes and facies complexes; a brief introduction to carbonate and chemical deposits. Three lectures and three hours of laboratory or equivalent field work a week, with occasional weekend field trips. Prerequisites: Geology 201 and 202, or consent of instructor. (Wilson)

**307. Stratigraphy** Principles, theory, and criteria for recognition of processes of formation of sedimentary rocks. Environments of deposition, basic stratigraphic relations, and interpretations of specific lithotopes. Three lectures a week, laboratory, and field trips. Prerequisites: Geology 203 and 204, or consent of instructor. (Saunders, Platt)

**308. Principles of Economic Geology** An introduction to the formation, localization, and exploitation of non-fuel mineral deposits. Three lectures, three hours of laboratory a week. Prerequisites: Geology 201, 202, and either 301, 302, or 305. (M. L. Crawford)

**310. Introduction to Geophysics** Equations describing gravity and magnetic fields and the movement mechanisms and paths of seismic waves and heat are discussed. Data obtained using these techniques are applied to regional and whole-earth topics. Three hours of lecture a week. Prerequisites: Mathematics 101, 102 and either Geology 204 or Physics 101, 102. (Platt)

**336. Evolutionary Biology: Advanced Topics** A seminar course devoted to current issues in evolution. Discussions are based on readings from the primary literature. Topics vary from year to year. One three-hour discussion per week. Prerequisite: Geology 236 or consent of instructor. (Saunders, Gardiner, Davis, Yarczower, Schull)

**403. Independent Research** An independent project in the field, laboratory, or library culminating in a written report and oral examination. (Staff)

Graduate seminars in the Department of Geology are open to qualified undergraduates with the consent of the instructor, the student's dean, and the dean of the Graduate School of Arts and Sciences.

## GERMAN AND GERMAN STUDIES

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*Professor of Linguistics in German and Anthropology:*  
Nancy Dorian, Ph.D. (on leave, 1989-90)

*Associate Professor:*  
Shelley Frisch, Ph.D., *Chairman*

*Assistant Professors:*  
Myra Love, Ph.D. (on leave, 1989-90)  
Michael Myers, Ph.D.

Heidemarie Owren, D.A.  
Azade Seyhan, Ph.D. (on leave, Semester I, 1989-90)

### **Affiliated Faculty**

Richard Bernstein, Ph.D., *Professor of Philosophy at Haverford*

Jane Caplan, Ph.D., *Professor of History at Bryn Mawr*

Robert J. Dostal, Ph.D., *Associate Professor of Philosophy at Bryn Mawr*

George L. Kline, Ph.D., *Milton C. Nahm Professor of Philosophy at Bryn Mawr*

Barbara Miller Lane, Ph.D., *Professor of History and Andrew W. Mellon Professor in the Humanities at Bryn Mawr (on leave, 1989-90)*

Lucius Outlaw, Ph.D., *Associate Professor of Philosophy at Haverford*

John Spielman, Ph.D., *Professor of History at Haverford*

Kathleen Wright, Ph.D., *Associate Professor of Philosophy at Haverford*

The two-college Department of German combines the faculty of Haverford and Bryn Mawr Colleges to offer a unified program and a variety of courses and major options. The purpose of the major in German is to lay the foundation for an understanding and appreciation of German culture through its literature and language, through the history of its arts, its thought, and its institutions. Students who concentrate on German literature not only read widely in the works of German-language authors, but also explore the cultural milieu and the sociopolitical setting in which the writers produced their work. Students who concentrate on culture and civilization similarly become familiar with the dominant literary figures in the cultural landscape of any particular time and place. In this sense the two branches of the major overlap and intertwine.

Course offerings are intended to serve both those with particular interest in German literature, literary theory, and criticism, and those with particular interest in German and German-speaking lands from the perspective of history, philosophy, political science, the history of religion, and so forth.

A thorough knowledge of German is a common goal for both major programs, and texts in German are central to a

program focusing on German history or philosophy, for example, as well as to a program focusing on German literature.

The German major consists of ten units. Even if a student begins her or his major studies at a level above the 100-level course, she or he must normally complete ten units. All courses at the 200 or 300 level can serve as part of a departmental major program, either in a literature concentration or in a German studies concentration. A literature major normally follows the sequence 201 and/or 202; 214, 215; plus additional courses to complete nine of the ten units, ideally two of them at the 300 level; and finally one semester of Senior Conference. A German studies major normally includes 223, 224; one 200-level course in German literature; three courses (ideally two of these are at the 300 level) in subjects central to aspects of German culture or of German history; and one semester of Senior Conference. In either program, credit toward the major for 101, 102 may be granted, on special request, if a student has begun her or his study of German with 001, 002. Within each concentration consideration must be given to structuring the courses selected so as to achieve a reasonable breadth, but also a degree of logical coherence. German majors are encouraged, when possible, to take work in at least one foreign language other than German.

Students majoring in German are encouraged to spend some time in German-speaking countries in the course of their undergraduate studies. Various possibilities are available: summer study, the summer work program sponsored by the Department of German, junior year abroad, or a single semester of study abroad. Within the departmental course offerings, German 201, 202 (Advanced Training in the German Language) is especially geared toward improving speaking and writing skills.

Any student whose grade point average in the major at the end of the senior year is 3.8 or above qualifies by grade point average alone for departmental honors. Students whose major grade point average at the end of the senior year is 3.6 or better, but not 3.8, are eligible to be discussed as candidates for departmental honors. A student in this range of eligibility must be sponsored by at least one faculty member with whom he or she has done coursework, and a minimum of two faculty members must read some of the student's advanced work and agree on the excellence of the work in order for departmental honors to be awarded. In the case of sharp difference of opinion, additional readers will serve as needed.



A minor in German consists of seven units of work. To qualify, students are required to take 201 or 202, four additional reasonably coherent units, of which at least one is at the 300 level; 101, 102 may, with the approval of the department, be counted toward the minor; or additional upper-level courses, distributed as suits the individual student's program, may be included within the seven units.

For Bryn Mawr students participation in the Bryn Mawr program in International Economic Relations is possible (see page 290). For students of both colleges guest participation in the Princeton University German Summer Work Program is a possibility. Under this program jobs which pay a living wage are arranged in the German-speaking countries during the summer months; transportation to and from the job remains the students' financial responsibility, however.

**001, 002. Elementary German: Intensive** Meets five hours a week with the regular class instructor, one with an auxiliary instructor, two with student drill instructors. A ninth self-scheduled laboratory hour a week is obligatory. This is a year-long course, both semesters are required for credit at Bryn Mawr. Each semester carries 1.5 units of credit. (Owren)

**001, 002. Elementary German** Meets three hours a week with the individual class instructor, two with student drill instructors. This is a year-long course, both semesters are required for credit at Bryn Mawr. (Staff)

**003, 004. Intermediate German** Thorough review of grammar, exercises in composition, oral practice, and specially selected readings for students who have had the equivalent of two years of high school German and for those who are not adequately prepared to take German 101. (Staff)

**010, 011. German for Reading Knowledge** For students who wish to acquire the fundamentals of German grammar and a reading knowledge of the language. Does not meet the language requirement. (Cary)

**101, 102. Advanced Intermediate German** Thorough review of grammar, with continued practice in speaking and writing. Reading and discussion of selected works pertinent to the literature and culture of the German-speaking lands. (Staff, Division III)

**201, 202. Advanced Training in the German Language** Emphasis on improving ability to communicate in German, both spoken and written, for students who already have a good grasp of the language. Materials chosen from contemporary cultural and political events in the German-speaking lands, newspapers, films, public debate, new literary works, and German-language media programming. Two semesters; each can be taken independently, both are recommended. (Owren, Seyhan)

**205, 206. Introduction to Genre Studies** Introduction to the fundamentals of literary history through discussion of various genres. Two semesters; each can be taken independently. (Division III; not offered 1989-90)

**208. Lyric Poetry: Women Poets** A focused reading of twentieth century women poets writing in the German language, with attention to the sociocultural implications of the significant participation by twentieth century women in the German lyrical tradition. (Love, Division III; not offered in 1989-90)

**210. Introduction to Literary Analysis and Critical Theory** An introduction to various ways of approaching literary texts based on readings from literature in German and on investigations of recent European and American literary theory. (Division III; not offered in 1989-90)

**212. Readings in German Intellectual History** Reading and discussion of major texts in German intellectual history, introducing representative works of Lessing, Kant, Hegel, Marx, Nietzsche, and Freud. Emphasis on students' developing a facility in the reading of non-fiction texts and of gaining a command of basic vocabulary and concepts of the humanistic disciplines in German-speaking countries. Readings in German, other work in English. (Division III; not offered in 1989-90)

**214, 215. Survey of Literature in German: Canons and Institutions** A study of the major periods of literature in German within a cultural and historical context, including representative texts for each period. (Division III; not offered 1989-90)

**223. Topics in German Cultural Studies: Life and Culture in the Weimar Republic, 1918-1933** An examination of the

cultural and political development in Germany from World War I to Hitler's rise to power, emphasizing the transformation of Germany from a republic to a dictatorship in a short but intense fifteen-year period. Materials include literature, film, art, propaganda, newspapers, and other historical documents. Readings in German, lectures in English. (Myers)

**224. Topics in German Cultural Studies** Topics and instructor to be announced.

**251. Woman as Author, Woman as Sign: Women in German Literary Tradition** The representation of women and women as authors in German literature since 1790. In English translation. (Love, Division III; not offered in 1989-90)

**303. Modern German Prose** An advanced seminar on topics in twentieth-century German prose. (Division III; not offered in 1989-90)

**304. The German Novella** A study of one of the most important German literary genres, covering the origins of the novella as a genre, and major German novellas from classicism to the present. (Division III; not offered in 1989-90)

**305. Modern German Drama** Selected plays of major West and East German, Austrian, and Swiss playwrights. (Division III; not offered in 1989-90)

**310. Lessing and the Enlightenment** A study of Lessing's major works and his relationship to contemporary literary, aesthetic, dramaturgical, historical, and theological trends. (Division III; not offered in 1989-90)

**320. Topics in German Literature: Romanticism and Revolution** Aesthetic, philosophical, scientific, and political cross-currents in early nineteenth-century literature from the "aesthetic revolution" of romanticism to 1848. Topics include romantics' emphasis on the creative imagination and idealist philosophy in relation to a preoccupation with the supernatural; the significance of this literature for the development of European short story forms and for other disciplines, especially philosophy; the decline of romanticism and the brief flowering of revolutionary literature, songs, and pamphlets. Authors include Tieck, Kleist, Novalis, Hoffmann, Heine, and Buchner. (Frisch, Division III)

**321. Topics in German Literature**

**356. Advanced Topics in German Literature** An advanced seminar on topics in German literature. (Staff, Division III; not offered in 1989-90)

**399. Senior Conference** Topics chosen in consultation with students majoring in German. (Staff)

**403. Independent Study**

In addition to courses geared to the study of German language, culture, and civilization which are given by members of the Department of German faculty, courses given by members of other departments may be offered in cooperation with the Department of German and designed in such a way that students concentrating on German studies can earn major or minor credit for them. This is particularly true of courses in philosophy and history, and occasionally true of courses in other departments.

The following courses at Bryn Mawr are offered in cooperation with the German department:

**History 247, 248. Germany 1815 to the Present**

**History 319. Topics in European History: National Socialism and German Society, 1918-1945**

**Philosophy 300. Kant**

**Philosophy 331. Hegel, Marx, and Nietzsche**

**Philosophy 338. German Phenomenology: Heidegger and Husserl**

The following Haverford courses are offered in cooperation with the Department of German:

**History 225, 226. Europe Since 1789**

**History 227. The Age of Absolutism**

**Philosophy 226. Nineteenth-century Philosophy: Marx and Engels**



Philosophy 227. Nietzsche

Philosophy 229. Wittgenstein

Philosophy 302. Kant

Philosophy 303. Hegel

## GREEK

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*Professors:*

Gregory W. Dickerson, Ph.D., *Acting Chairman Semester II, 1989-90*

Richard Hamilton, Ph.D., *Paul Shorey Professor and Chairman (on leave, Semester II, 1989-90)*

Mabel L. Lang, Ph.D., *Katharine E. McBride Professor*

The department's sequence of courses in the ancient Greek language is designed to acquaint the students with the various aspects of Greek culture through a mastery of the language and a comprehension of Greek history, mythology, religion, and the other basic forms of expression through which the culture developed. The works of poets, philosophers, and historians are studied both in their historical context and in relation to subsequent Western thought. In addition the department regularly offers one or more courses on Greek history, myth, literature, or religion for which knowledge of the Greek language is not required.

Requirements in the major are 001, 002, 101, 104, 201, 202, 301 and 302. Also required are three courses to be distributed as follows: one in Greek history, one in Greek archaeology, and one in Greek philosophy. The major is completed with the Senior Conference (399) on a special topic selected by the students and with the comprehensive examinations: one in sight translation from Greek to English, one in Greek literature and history, and one in the special field covered by the Senior Conference.

Prospective majors in Greek are advised to take Greek 001 and 002 in the freshman year. For students entering with Greek there is the possibility of completing the requirements for both A.B. and M.A. degrees in four years. Qualified seniors may undertake independent research leading to a

degree with honors. Those interested in pursuing advanced degrees are advised to have a firm grounding in Latin.

Requirements for a minor in Greek are 001, 002, 101, 104, 201, and 202. See also majors in Classical Languages and Classical Studies (page 282).

Students of classics are encouraged to consider a term of study during the junior year at the Intercollegiate Center in Rome.

**001, 002. Elementary Greek** Semester I: Elements of grammar, prose composition, readings from ancient authors and the *New Testament*. Semester II: Plato's *Apology* and *Crito*; sight readings in class from various authors. This is a year-long course; both semesters are required for credit. (Dickerson, Hamilton)

**101. Herodotus** Book I of Herodotus' *History*. (Dickerson, Division III)

**103. New Testament** Selections from the Gospels, Acts, and Epistles. Offered in alternate years. (Hamilton, Division III)

**104. Homer** Several books of the *Odyssey* are read and verse composition is attempted. A short essay is required. (Hamilton, Division III)

**201. Plato and Thucydides** The *Symposium* and the history of the Sicilian Expedition. (Hamilton, Division III)

**202. The Form of Tragedy** Euripides' *Bacchae*, Sophocles' *Oedipus Tyrannus*, and Aristotle's *Poetics*. (Dickerson, Division III)

**301. Hesiod and Pindar** *Theogony*, *Works and Days*, and the odes of Pindar. (Hamilton, Division III)

**302. Aeschylus and Aristophanes** Aeschylus' *Agamemnon* and Aristophanes' *Frogs*. (Dickerson, Division III)

**399. Senior Conference** A special topic selected in accordance with student interest. (Staff)

Courses for which a knowledge of Greek is not required:

**History 205. Ancient Greece** A study of Greece from the Trojan War to Alexander the Great, with particular attention to the constitutional changes from monarchy through aristocracy and tyranny to democracy in various parts of the Greek world. Emphasis on ancient sources, including historians, inscriptions, and archaeological and numismatic materials. (Lang, Division III)

**General Studies 150. Outlaws, Scapegoats, and Sinners in Fifth-century Athens** A study of marginal figures in Athenian literature, religion, and politics, emphasizing the context, causes, and effects of the profanation of the Eleusinian mysteries in 415 B.C. and the trials for impiety of Andocides and Socrates in 400 and 399 B.C., and including a survey of the dramatic literature of the period. Topics include the "holy man," once polluted, now powerful; impiety trials; ostracism; beggars and exiles; pollution; sycophants and the court system. Authors include Sophocles, Euripides, Aristophanes, Thucydides, Xenophon, Lysias, and Andocides. (Hamilton, Division III)

**General Studies 211. Masks, Madness, and Mysteries in Greek Religion** A review of the ancient evidence, both literary and archaeological, pertaining to the cults of Demeter and Dionysus practiced in ancient Greece, followed by an examination of various modern theories which have been proposed to illuminate the significance of the rites. (Dickerson, Division III)

**Greek 215. The Ancient Stage** The development from early Greek tragedy through the pivotal tragi-comedies of Euripides to New Comedy and its Roman successors. (Hamilton, Division III)

Haverford College offers the following courses in Greek:

**Classics 001a, b. Elementary Greek**

**Classics 101a. Introduction to Greek Prose**

**Classics 101b. Introduction to Greek Poetry**

**Classics 251. Advanced Greek**

# GROWTH AND STRUCTURE OF CITIES

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*Professor:*

Barbara Miller Lane, Ph.D., *Andrew W. Mellon Professor in the Humanities* (on leave, 1989-90)

*Associate Professor:*

James C. Wright, Ph.D., *Acting Chairman*

*Lecturers:*

Michael L. Lahr, M.A.

Michael J. Lewis, Ph.D.

Fernando Soler-Rioseco, Ph.D.

Daniela Holt Voith, M.Arch.

In this interdisciplinary major, the student studies the city from several points of view. City planning, art and architecture, history, political science, anthropology, economics, sociology, and geology contribute toward the understanding of the growth and structure of cities.

All students must take City 190 and 253, and two introductory urban studies courses (City 200, 240, 250; Sociology 218, 245). Together these courses provide an overview of the development of urban form and of the elements of urban social structure. At least one of these introductory courses must be taken before the junior year.

In addition to the required courses, each student should select six courses from among the major courses listed below; two of the courses must be at the 300 level. Elective choices must be concentrated in two of the three "tracks" within the major: (1) urban history; (2) architecture and planning; (3) social science analyses of the city. Three additional courses, one at the 300 level, must be chosen from any one among the following departments: anthropology, fine arts, classical and Near Eastern archaeology, economics, geology, history, history of art, mathematics, physics, political science, sociology and, occasionally, with the consent of the dean, courses in the Graduate School of Social Work and Social Research.

A fourth advanced course is required in the senior year. This may take the form of intensive independent research within the context of the Senior Seminar (398 or 399) or the



student may elect another 300 or 400-level course from the major or ally.

Requirements for the minor in the cities program are two out of the four required courses and four cities electives of which two must be at the 300 level. Senior Seminar is not mandatory in fulfilling the cities minor.

Students should note that many courses in the program are given on an alternate year basis. Many also carry prerequisites in economics, history or art history. Hence, careful planning and frequent consultation with the major adviser are particularly important.

**Geology 103. Environmental Geology** Study and evaluation of geological processes as they relate to land-use planning, urbanization, and mineral resource use and conservation. Lecture three hours, laboratory or field work three hours a week. (Division III)

**City 190. The Form of the City: Urban Form from Antiquity to the Present** The city as a three-dimensional artifact. A variety of factors—geography, economic and population structure, politics, planning, and aesthetics—are considered as determinants of urban form. Enrollment limited by consent of instructor according to preparation. Suggested prerequisites: History 111, 112; or History of Art 101, 102; or Archaeology 101, 102. (Lewis, Division III)

**City 200. Urban Society** The techniques of the social sciences as tools for studying historical and contemporary cities. Topics include ethnicity, the role of the neighborhood and local communities, and participation. (Staff)

**Archaeology 203. Ancient Greek Cities and Sanctuaries** A study of the development of Greek city-states and sanctuaries. (Wright, Division III)

**Economics 208. Labor Economics** Analysis of the labor market including the demand for labor by the firm (including discrimination); aspects of labor supply (labor force participation, occupational choice, educational investment, on-the-job training); the role of unions and the impact of government policies. Emphasis on circumstances affecting women in particular. Prerequisite: Economics 101. (Staff, Division I)

**Anthropology/Sociology 211. African American Culture and Community** An examination of the social development and functioning of the African American community as the embodiment of a unique pattern of experience in American society. The course focuses on a number of issues, including African heritage, racial exclusion, demographic characteristics, and politics. (Washington, Kilbride, Division I)

**Sociology 212. Sociology of Poverty** An analysis of the causes and effects of poverty in the United States. Issues covered include trends in poverty (how many and who are poor and changes over time in the poverty population); analysis of the culture of poverty approach; the interrelationship among poverty, the economy, the political system, the family, and educational institutions; and an analysis of government programs for the poor, including current programs. (Porter, Division I)

**History of Art 212. Medieval Architecture** A survey of mostly church architecture in western Europe from the eighth through the thirteenth centuries, with emphasis on the eleventh and twelfth centuries. Topics include the development of new designs, structural problems and innovations, the transmission of architectural ideas, and the role of pictorial and sculptural decoration. (Kinney, Division III; not offered in 1989-90)

**Economics 215. Urban Economics** Application of micro- and macroeconomic theory to urban economic behavior. Topics considered include housing and land use, transportation, urban labor markets, urbanization, demand for and financing of urban services. Prerequisite: Economics 101 or 102, or permission of the instructor. (Lahr, Division I)

**Economics 214. Public Finance** An analysis of government's role in resource allocation, emphasizing effects of tax and expenditure programs on income distribution and economic efficiency. Topics include sources of inefficiency in markets and possible government responses; federal budget composition; U. S. tax structure and incidence; multigovernment public finance. Prerequisites: Economics 101, 102. (Newburger, Division I)

**Sociology 218. Modernization** An introduction to major theoretical approaches to the socioeconomic problems con-

fronting developing nations of Africa, Asia, and Latin America; theories of modernization; the Western capitalist, the socialist, and the Japanese problems of modernization; social consequences of colonization; feudalism and other pre-modern forms of social organization; the problems of urbanization; social class exploitation, rapid population growth, problems of political order. (Washington, Division I)

**City 219. The Chinese Village** The history of the Chinese village from the 1898 reform movement to the present. Topics include various movements, such as Rural Reconstruction and the Great Leap Forward, the changing role of women in China, the place of religion in twentieth-century China, and the role of Western capitalism in the development of the Chinese economy. (Nylan, Division I; cross listed as History and Political Science 219; not offered in 1989-90)

**Economics 221. United States Economic Development** Long-term trends in output, labor and capital, and technology, with emphasis on the rise of "big business" after 1870, and foreign trade and investment and the role of government, considered within the framework of imbalances and disequilibrium in an expanding capitalist economy. Prerequisites: Economics 101, 102. (Du Boff, Division I)

**Archaeology 223. Ancient Near Eastern Architecture and Cities** Building techniques, forms and functions of structures, settlements and cities; effects of environment and social structure. (Ellis, Division III)

**Economics 224. Economic History and Growth, 1750-1980** The development of the international market economy from the Industrial Revolution to World War II and its aftermath, with focus on Great Britain, France, and Germany. Topics include causes of economic growth and underdevelopment, the spread of industrialization and technological modernization, large-scale business enterprise, foreign trade and political power. Prerequisites: Economics 101, 102 or consent of instructor. (Du Boff, Division I)

**Economics 225. Developing Economies** Analysis of the structural transformations of developing economies. Causes and roles of savings, investment, skill, technological change, and trade in the development process; strategies and methods of economic planning. Prerequisites: Economics 101, 102. (Division I)

**City 226. Introduction to Architectural Design** An introduction to the principles of architectural and urban design. Prerequisite: some history of art or history of architecture. (Voith, Division III)

**City 227. Topics in the History of Modern Planning** A survey of the evolution of modern planning theory, followed by case study analysis of a series of planned cities, with emphasis on planning outside of the United States. (Soler, Division III)

**City 228. Problems in Architectural Design** A continuation of City 226 at a more advanced level. Prerequisite: City 226 or other comparable design work and consent of instructor. (Voith, Division III)

**Sociology 230. Urban Sociology** Analyses of urban social structures; the theoretical legacies of classical sociological theory and the Chicago school; demographic and ecological characteristics of American cities; ethnic and racial bases; stratification and political structures; crime and problems of social control; comparative analyses of selected third world cities. (Washington, Division I)

**Economics 232. Latin American Economic Development** A theoretical and empirical analysis in an historical setting of the factors which have led to the underdevelopment of Latin America, with emphasis on the relationship between political and social change and economic growth. (Soler, Division I)

**Sociology 235. The Sociology of Development: Case Studies in Latin America and the Caribbean** An examination of social, economic, and political change in selected Latin American and Caribbean societies, focusing on historical and contemporary problems of development including industrialization, the structure of agriculture, employment, and the role of politics and the military in promoting social order and change. Comparative analyses of national development policies and their effects in the indigenous population and the international community are addressed. (Osirim, Division I)

**City 240. Urbanism and Urbanization in Developing Countries** A survey of rapid urbanization and its socioeconomic consequences in developing countries. Examines a wide range of urban and regional problems with emphasis on public



policy. Topics include rural-to-urban migration; housing and urban development; urban infrastructures, transportation, and congestion. (Division I)

**Sociology 245. Social Problems** A survey of major problems in American society as seen by sociologists and social critics; an examination of analytical perspectives for understanding the sources and consequences of American social problems. Topics include crime, poverty, drug addiction, racism, urban crisis, sexism, health care, and family disorganization. (Washington, Division I)

**City 250. Introduction to the Growth and Spatial Organization of American Cities** An introduction to urban studies. Overview of the changes and problems of American cities. Analytical and quantitative methodologies as well as historical and qualitative approaches are introduced. Topics include American urban history, population, and economic structures of cities, urban housing, neighborhood, racial and ethnic segregation, urban design and the built environment. (Lahr, Division I)

**City 253. Survey of Western Architecture** The major traditions in western architecture illustrated through detailed analysis of selected examples from classical antiquity to the present. The evolution of architectural design and building technology, and the larger intellectual, aesthetic, and social context in which this evolution occurred, are considered. Suggested prerequisites: History of Art 101, 102. (Lewis, Division III)

**City 254. History of Modern Architecture** A survey of the development of modern architecture since the eighteenth century, with principal emphasis on the period since 1890. Prerequisite: City 253 or consent of instructor. (Division III)

**City 262. The City of Rome: Historical Profile from Late Antiquity to the Restored Republic** A study of the evolution of Rome in the post-antique period including the material significance for Rome of its ancient legacy and the effects of alteration on territorial, economic, and population resources, outside intervention, and ideological change. Topics include the image of ancient Rome and its influence on the medieval pilgrim, artists and architects of the Italian renaissance, artisans of the baroque, and travellers on the grand tour, with

an emphasis on reversing the reduction of the city to the status of a vessel from which experience and objects were removed by generations of tourists. (Scott)

**French 295. Paris in the Seventeenth and Eighteenth Centuries** A study of the geography, architecture, economics, sociology, and politics of Paris in these two periods. (Lafarge, Division III)

**Archaeology 302. Greek Architecture** The Greek architectural tradition in its historical development. (Wright, Ridgway)

**City 303. The Growth and Spatial Organization of American Cities** An analysis of the changes and problems of modern American cities. Physical aspects of cities and city planning issues are emphasized. Topics include population and economic structure of cities; urban housing, neighborhood, and racial segregation; urban development; migration; regional growth and decline.

**City 305. Planning Theory and Urban Analysis** This course will be an intellectual reconnaissance into (1) the language and concepts of planning and (2) the main techniques used by urban planners. All applications will focus on urban development. Class work will simulate that of a team of urban planners. (Lahr, Division I)

**Archaeology/Anthropology 309. The Origins of Civilization and the State** An investigation into the problems of the origin and development of the state and civilization. Several alternative theories of state formation processes and the development of urbanism are explored along available lines of evidence. The data examined are primarily archaeological, but ethnographic and textual evidence also play an important role. The sample of cases includes Mesopotamia and Mesoamerica as well as archaeologically known sequences from other parts of the New and Old Worlds. Students investigate archaeological records from particular regions in some detail and compare their results with more general formulations developed in lectures, discussion, and readings. (Ellis, Davis)

**History 312. Medieval Cities: Islamic, Byzantine, and Western** Introduction to the comparative study of economy,

society, politics, and culture of towns in the Islamic, Byzantine, and Western European worlds from the seventh to the thirteenth centuries. (Brand)

**Political Science 316. Ethnic Group Politics** Topics include the definition of ethnicity and race as political concepts, the relationship of ethnicity and race to other bases of social differentiation, and forces affecting patterns of conflict and cooperation within and between groups. The cases analyzed are drawn from the United States, South Africa, Europe, and several third world nations. (Ross; not offered in 1989-90)

**History of Art 323. Topics in Renaissance Art** Selected subjects in Italian art from painting, sculpture, and architecture between the years 1400 and 1600. (Cast)

**Archaeology 324. Roman Architecture** The architecture of the Republic and the early Roman Empire. (Bober)

**History 327: Topics in Early American History: Metropolis and Province: London and Philadelphia, 1680-1800** A study of the two largest cities in the British Atlantic world in the eighteenth century in the context of a shared Atlantic culture. Philadelphia is viewed both as an urban provincial center culturally, politically and commercially subordinate to London, and also as a city with a distinctive regional culture and economy shaped by circumstances unique to the New World. Topics include the culture of the waterfront, the consumer revolution of the eighteenth century, urban crowds, merchant grandees, and the Quaker and Jewish communities of both cities. (Fisher-Gray)

**City 353. Chinese Notions of Time and Space: Garden, House, and City** (Nylan; not offered in 1989-90)

**History of Art 355. Topics in the History of London** Topics include the idea of city versus country in literature and ethics, the development of city planning and legal mechanisms for the control of cities, the history of public housing; special moments and exhibitions, groupings and groups (clubs, coffee-houses), and matters of social history such as the development of seasonal labor. (Cast)

**History 368, 369. Topics in Medieval History** Topics vary; they may include the Jews, the Mediterranean, popular heresies, and Venice. (Brand)

**City 377. Topics in the History of Modern Architecture**

Selected aspects of the history of modern architecture, such as housing, public buildings, and industrial buildings, are studied in detail. Emphasis on actual building types, rather than on the design ideas of a few great architects. A reading knowledge of French, German, or Italian is desirable. Prerequisite: City 253 or consent of instructor. (Lewis)

**City 398, 399. Senior Seminar** An intensive research seminar. (Lewis, Staff)

Many history courses at Bryn Mawr, Haverford, and Swarthmore Colleges fulfill the elective requirements in the history "track" with consent of the major adviser.

## **HISTORY**

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*Professors:*

Charles M. Brand, Ph.D.

Jane Caplan, D. Phil., *Chairman*

Arthur P. Dudden, Ph.D., *Fairbank Professor in the Humanities*

Barbara Miller Lane, Ph.D., *Andrew W. Mellon Professor in the Humanities* (on leave, Semester II, 1989-90)

J.H.M. Salmon, Lit. D., *Marjorie Walter Goodhart Professor*

Alain Silvera, Ph.D. (on leave, Semester II, 1989-90)

James Tanis, Th.D., *Rufus M. Jones Professor of Philosophy and Religion and Director of Libraries*

*Assistant Professor of Chinese Culture and History :*

Michael Nylan, Ph.D. (on leave, 1989-90)

Carney Fisher, Ph.D., *Katharine E. McBride Visiting Professor of Chinese Studies in History*

*Lecturer on the Helen Taft Manning Fund:*

Robin W. Kilson, M.A.

*Instructor:*

Elizabeth Fisher-Gray, A.M.

*Part-time Lecturer in History and History of Art:*

Suzanne Spain, Ph.D., *Assistant Treasurer of the College*



### Affiliated Faculty

Richard S. Ellis, Ph.D., *Professor of Classical and Near Eastern Archaeology*

Mabel L. Lang, Ph.D., *Katharine E. McBride Professor of Greek*

Russell T. Scott, Ph.D., *Professor of Latin*

The history major enables students to acquire historical perspective and a familiarity with historical method, giving them a lasting appreciation for the discipline of history. Courses stress the development of ideas, cultures, and institutions, not merely the accumulation of data about particular events. Students study some topics and methods intensively to learn how to use and evaluate primary sources. Instructors assign extensive reading to familiarize students with various kinds of historical writing. Students are expected to participate in class discussions and, in most courses, critical or narrative essays are required.

Students seeking to major or minor in history may choose among several options: (1) to major in the general track; (2) to major in history with a focus on women's studies, French historical studies, architectural history or East Asian studies; (3) to minor in history (with or without one of the focuses described above); (4) to take a combined A.B./M.A. in history. Prospective majors and minors should note that additional focuses may be available at the discretion of the department.

Ten history courses are required for the major. These must include two western civilization courses (111 and 112; juniors and seniors may substitute 396 for 111 and 397 for 112); one methodology course (299 or 396, 397; 396, 397 may also satisfy the western civilization requirement, but not the advanced topics requirement); two advanced topics courses to include either 300-level courses with substantial research papers, or a unit or units of History 403 with a substantial research paper or papers; and one non-western course. Students who undertake two units of History 403 will have the opportunity to achieve honors in history. Honors will be awarded by the department based on the paper and other work completed within the department. Students with scores of 5 on their Advanced Placement examination in history are exempt from two elective course requirements. Any student with a score of 5 on the A. P. examination in European History would ordinarily take History 396, 397 to satisfy the western civilization requirement.

To focus the major in women's studies, French historical studies, architectural history, or East Asian studies, the student must complete at least three courses specifically focused on the topic. In some cases, courses not taught by the Bryn Mawr or Haverford Departments of History but which have a historical approach will, with departmental permission, be counted toward the focus. In addition, with consent of the instructor, students must do the research paper(s) for an additional 200- or 300-level course in accordance with the focus, so that that course becomes part of the focus. Such students are also responsible for the overall content of the course.

With careful advance planning it is possible to complete an M.A. in history in a fifth year and so to graduate with the A.B./M.A. degree. See details in the catalogue of the Graduate School of Arts and Sciences.

Students wishing to minor in history must complete six units. They may focus their work as discussed above; in this case at least four units must be within the focus.

The Departments of History at Bryn Mawr and Haverford Colleges have fully coordinated their course offerings. History 111, 112 is offered jointly by members of both departments; several intermediate courses are given at one college or the other in alternate years. All courses are open to students of both schools equally. Both departments encourage students to avail themselves of the breadth of offerings this cooperation affords. Swarthmore College and the University of Pennsylvania courses in history are acceptable toward the major and minor.

**111, 112. Western Civilization** A survey of Western European civilization from the fall of Rome to the present, including both institutional and intellectual currents in the western tradition. Conference discussions and lectures deal with both first-hand materials and secondary historical accounts. (Staff, Division III)

**120, 121. Freshman Seminars** At least one is given each semester; topics in 1989-90 include: "*Machine Dreams*": *The Making of the First Industrial Nation, Britain 1780-1850* (Caplan); *Black Americans in Slavery and Freedom* (Fisher-Gray). Freshmen only, enrollment limited, entry with consent of instructor. (Division III)

**190. The Form of the City: Urban Form from Antiquity to the Present** The city as a three-dimensional artifact. A variety of factors—geography, economic and population structure, planning and aesthetics—are considered as determinants of urban form. Enrollment limited by consent of instructor according to preparation. Suggested prerequisites: History 111, 112; or History of Art 101, 102; or Archaeology 101, 102. (Lewis, Division III; cross listed as Growth and Structure of Cities 190)

**201. American History** The history of the United States to the present. (Dudden, Division I; not offered in 1989-90)

**202. Problems in American History** Primary and secondary sources employed in interpreting United States history; exercises focus on quantitative material, archival history, and oral history, among others. (Dudden, staff; not offered in 1989-90)

**204. Medieval European Culture** Western European development in the twelfth and thirteenth centuries. Topics include economic, institutional, and intellectual developments in the major kingdoms of the West and the history of the Latin Church. (Brand, Division III)

**205. Ancient Greece** A study of Greece from the Trojan War to Alexander the Great, with focus on constitutional changes from monarchy through aristocracy and tyranny, to democracy in various parts of the Greek world. Ancient sources, including historians, inscriptions, and archaeological and numismatic materials are emphasized. (Lang, Division III; cross listed as Greek 205)

**207. Roman History** A study of Rome from the beginning of the third century B.C. to the end of the Republic with focus on the rise of Rome in Italy, the Hellenistic world, and the evolution of the Roman state. Ancient sources, literary and archaeological, are emphasized. (Scott, Division III; not offered in 1989-90)

**208. The Roman Empire** Imperial history from the principate of Augustus to the House of Constantine with focus on the evolution of Roman culture as presented in the surviving ancient evidence, literary and archaeological. (Scott, Division III)

**209. Latin America: Colonies and Revolutions** The conquest of South America, the transplantation and modification of European institutions, and the colonial society, economy, and culture; followed by consideration of revolutionary movements and the establishment of new nations. (not offered in 1989-90)

**210. Early Byzantine Culture** The transformation of ancient culture (art, institutions, thought, popular practices) into Byzantine culture from the fourth to the sixth centuries. Topics include the retention and alteration of classical motifs, ideas and institutions under the impact of such forces as Christianity, civil strife and external pressure to show how the Byzantine and medieval emerged from the Roman precursor. (Brand, Spain, Division III; not offered in 1989-90)

**213. The American Revolution, 1760-1800** The war waged by Americans from 1775 to 1783 as a fight for independence and a revolution that transformed American society and politics. Questions addressed include: Why is the American Revolution still the single most important event in American history? What does it mean to us in the twentieth century? (Fisher-Gray, Division III; not offered in 1989-90)

**214. The Great Republic: America after the Revolution, 1783-1830** The period between the end of the Revolution and Andrew Jackson's election, focused on the struggle to work out the meaning of the American revolutionary heritage. Topics include major political events, as well as the moral, religious, and social dilemmas Americans faced in confronting the contradictions between the belief in republican virtues and the problems of slavery, the role of women, and a growing capitalist economy. (Fisher-Gray, Division III; not offered 1989-90)

**215, 216. The Middle East** A survey of the Arab world and Turkey from the rise of Islam to the Arab-Israeli wars. First semester topics include the legacy of Islam, the rise and decline of the Umayyad and Abbasid Caliphates, and the development of Muslim society and institutions under the Ottoman Empire. The second semester concentrates on the impact of the West and the growth of Arab nationalism. (Silvera, Division III)

**217, 218. Renaissance and Reformation** The principal intellectual and religious movements in European History



considered against their social background from the mid-fifteenth to the mid-seventeenth centuries. (Salmon, Division III; not offered in 1989-90)

**219. The Chinese Village** The history of the Chinese village from the 1898 reform movement to the present, focusing on various historical movements, the changing role of women in China, the place of religion in twentieth-century China, and the role of Western capitalism in the development of the Chinese economy. (Nylan, Division I; cross listed as Growth and Structure of Cities and Political Science 219; not offered in 1989-90)

**221. The Ancient Near East** The history of the ancient Near East from the middle of the fourth millennium B.C. to the rise of the Persian Empire, focused on Mesopotamia and Egypt; the history and culture of Anatolia and Syria/Palestine are summarized. The written and archaeological sources and the extent and limitations of the data are emphasized. Topics include the rise of urbanism and state organization, the development and consequences of literacy, and the degree to which the contributions of different ethnic groups can be distinguished. (Ellis, Division III; cross listed as Classical and Near Eastern Archaeology 221)

**225, 226. Europe since 1789** An introduction to the political, social, and cultural history of European states, including Russia, from the French Revolution to the present. Strongly recommended as preparation for advanced courses in European history. Offered alternately at Bryn Mawr and Haverford. (Caplan, Silvera, Division III)

**228. The Enlightenment** An introduction to the ideas of some of the principal writers of the eighteenth century within their social context. Included are Bayle, Montesquieu, Voltaire, D'Alembert, Diderot, and Rousseau. (Salmon, Division III)

**239. Dawn of the Middle Ages** The collapse of the Roman Empire and the integration of German and Roman cultures in the fourth through sixth centuries; the origins of Western institutions and values. (Brand, Division III)

**246. Women in the Middle Ages** A study of the role of women in selected societies of medieval Europe. A considera-

tion of late Roman, barbarian, and early medieval women; an extended analysis of the literary perception and historical activities of women in the twelfth century; and some consideration of women's achievements in the thirteenth century. Prerequisite: French 101, or History 111, or equivalent. (Armstrong, Brand, Division III; cross listed as French 246; not offered in 1989-90)

**247, 248. Germany, 1815 to the Present** Introduction to the history of modern Germany with emphasis on social and political themes, including nationalism, liberalism, industrialization, women and feminism, labor movements, National Socialism, partition and postwar Germany, East and West. (Caplan, Division III)

**250. The American Pacific** The United States across the Pacific Ocean from California, Alaska, and Hawaii to Samoa, the Philippines, Japan, Korea, China, and southeast Asia from 1790 to 1975. (Dudden, Division III)

**253. Survey of Western Architecture** The major traditions in Western architecture illustrated through detailed analysis of selected examples from classical antiquity to the present. The evolution of architectural design and building technology, as well as the larger intellectual, aesthetic, and social context in which this evolution occurred, are considered. (Lewis, Division III; cross listed as Growth and Structure of Cities 253)

**254. History of Modern Architecture** A survey of the development of architecture since the eighteenth century, with principal emphasis on the period since 1890. (Lane, Division III; cross listed as Growth and Structure of Cities 254; not offered in 1989-90)

**257, 258. The British Empire I and II** First semester covers the British Empire from the fifteenth century to 1815; the second semester looks at modern British imperialism through decolonization. (Kilson)

**265. Colonial America: Sources of Order in a New Society, 1607-1763** An examination of how Europeans and Africans created a new society and culture in America before the Revolution, focusing on the relations between different races and ethnic groups and the evolution of new patterns of social and political authority. (Fisher-Gray, Division I)

**285. Early China: Material, Social, and Philosophical Cultures** The development of early China from the Shang-Yin dynasty (ca. 1600 B.C.) to the beginning of the Northern Sung period (A.D. 960-1126), with emphasis on artistic, philosophical, and economic changes. Archaeological evidence and primary source materials used to sketch the outline of daily life, as well as the pattern of elite culture. (Nylan, Division I; cross listed as Political Science 295; not offered in 1989-90)

**291. La Civilisation Française** A survey of French culture and society from the Revolution to de Gaulle's Republic. Conducted in French; serves as the second half of the introductory course for French track II majors. (Silvera, Division III; cross listed as French 291; not offered in 1989-90)

**292. Women in Britain, 1780-1960** A study of the changing position of women in society, politics, and the economy since industrialization, with emphasis on problems of interpretation. Topics include the relationship of industrialization and women's status, whether wars emancipate women, and whether organized feminism is a middle class movement. (Caplan, Division I; not offered in 1989-90)

**297. History in the Romantic Period** The romantic vision of French history in the generation following Napoleon, including the study of the works of professional historians, writers of historical drama, and historical novelists. Authors include Guizot, Thierry, Michelet, Vigny, Merimee, and Hugo. Conducted partly in French. (Salmon, Division III; cross listed as French 297; not offered in 1989-90)

**299. Exploring History** A one-semester intensive introduction to the methods and interpretation of history. Exercises in a variety of fields accompany lectures and readings drawn from a range of historical approaches. (Dudden, Brand, staff, Division III)

**303. Topics in the Recent History of the United States** Topics have included: Franklin D. Roosevelt's New Deal; Lyndon B. Johnson's Great Society; the Korean and Indochina Wars; the United States in the Pacific Ocean region; selected topics in foreign relations. (Dudden)

**312. Medieval Cities: Islamic, Byzantine, and Western** Introduction to the comparative study of the economy, society, politics, and culture of towns in the Islamic, Byzan-

tine, and Western European worlds from the seventh to the thirteenth centuries. (Brand; not offered in 1989-90)

**317. Mexico: Independence to the Present** (Not offered in 1989-90)

**318, 319. Topics in Modern European History** Topics include Germany from 1890 to 1933, National Socialism and German society, and fascism. Prerequisites: History 112, 225, 226, 247 or 248 or consent of instructor. (Caplan; not offered in 1989-90)

**320. The Rise of the Dutch Republic** Politics and religion, the division between North and South, and the rise of the Northern Netherlands as an independent republic; with attention to commerce, art, and culture. (Tanis; not offered in 1989-90)

**321. The Golden Age of the Netherlands** The cultural and intellectual life of the Netherlands in the seventeenth century, emphasizing the philosophical and theological thought of the period, against a background of general economic and political considerations. Brief attention to the interplay of the artistic and literary contributions of the age. (Tanis; not offered in 1989-90)

**323. Dutch-American Relations, 1609-1809** (Tanis)

**324. The Northern Reformation** A study of the sixteenth century, when Northern Europe became Protestant while the South remained Catholic, yet religious zeal everywhere was mixed with social protest and revolutionary upheaval. (Tanis; not offered in 1989-90)

**327. Topics in Early American History** Topics include Nature and Frontier in Early America; Ethnicity in Early America. (Fisher-Gray)

**328, 329. Topics in Revolutionary Europe, 1789-1848** First semester covers the French Revolution and Napoleon; second semester topics include liberalism, nationalism, and socialism up to the Revolution of 1848. (Silvera; cross listed as French 328, 329)

**330, 331. France since 1870** The French national experience from the Paris Commune to the student revolt of 1968 with



emphasis on institutional and intellectual developments under the Republic. (Silvera; cross listed as French 330, 331; not offered in 1989-90)

**340. Religious Forces in Colonial America** A study of the interaction of diverse religious forces, in order to relate both ecclesiastical and theological problems to the broader culture and political contexts of the time. (Tanis)

**345. Valois France and Tudor England** A comparative study of French and English politics and ideas in the sixteenth century. (Salmon)

**346. Bourbon France and Stuart England** A comparative study of French and English politics and ideas in the seventeenth century. A sequel to History 345. (Salmon)

**357. Topics in Imperial History** Topics include the British slave trade and the abolition movement, the experience of people of color in Britain before WWII and after decolonization. (Kilson)

**368, 369. Topics in Medieval History** Topics include the Jews, the Medieval Mediterranean (tenth through the thirteenth centuries), popular heresy, and the Italian city-state. (Brand)

**370, 371. The Great Powers and the Middle East** The diplomatic and geopolitical aspects of the Eastern Question and the Great Game in Asia from Napoleon's invasion of Egypt to the 1956 Suez crisis, including the broader issues of Western cultural penetration in the Islamic heartlands. (Silvera)

**377. Topics in the History of Modern Architecture** (Lewis)

**391, 392. Topics in European Women's History** Topics include sexuality and the public order in the Victorian Age; women in Britain and Germany, 1890-1960; Feminism, liberalism, socialism in nineteenth-century Europe. (Caplan)

**396, 397. History of History I and II** Review of some of the principal historians of antiquity and the Middle Ages in the first semester is followed by the consideration of early modern and modern historians in the second semester; some

philosophy of history is included in order to establish critical criteria. At least one semester (if History 299 is not completed) is required of senior history majors. (Salmon)

**403. Supervised Work** Consent of the instructor and the department chairman are required. (Staff)

Haverford College offers the following courses in history:

- 131. Introduction to East Asian Civilization**
- 219. Social and Economic History of the High Middle Ages**
- 227. The Age of Absolutism**
- 234. History of Modern Africa**
- 234. Social Change in Southern Africa**
- 240. History and Principles of Quakerism**
- 244. Russian History**
- 245. Russia in the Twentieth Century**
- 255. American Intellectual History**
- 261. History of East Asia**
- 340. Topics in American History**
- 343. Topics in American Intellectual History**
- 347. Topics in East Asian History**
- 355. Topics in Early Modern History**
- 356. Topics in Modern European History**
- 357. Topics in Comparative Social Movements**
- 361. Seminar on Historical Evidence**

## HISTORY OF ART

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*Professors:*

Dale Kinney, Ph.D. (on leave, 1989-90)

Barbara Miller Lane, Ph.D., *Andrew W. Mellon Professor in the Humanities* (on leave, 1989-90)

Steven Z. Levine, Ph.D.

*Professor of Classical and Near Eastern Archaeology and History of Art:*

Phyllis Pray Bober, Ph.D., *Leslie Clark Professor in the Humanities*

*Associate Professors:*

David Cast, Ph.D., *Chairman*

Gridley McKim-Smith, Ph.D.

*Assistant Professor:*

Christiane Hertel, Ph.D.

*Lecturers:*

Celia Chazelle, Ph.D., *Mellon Postdoctoral Fellow*

Michael Lewis, Ph.D.

*Part-time Lecturer in History and History of Art:*

Suzanne Spain, Ph.D., *Assistant Treasurer of the College*

The department offers general and specialized courses in the history of the art of western Europe from post-classical through modern times. Special strengths and areas of interest include the classical tradition in western art, art theory and criticism, art historical method, and the history of architecture. Majors are encouraged to supplement this training with courses in American and non-western art offered at the University of Pennsylvania and at Swarthmore College, with courses in the history of ancient art offered in the Department of Classical and Near Eastern Archaeology at Bryn Mawr, or with courses taken at approved institutions here or abroad.

Major requirements are: 101, 102; three of the following pre-modern period courses: 210, 211, 212, 213, 220, 221, 235, 229, 230; three of the following modern period courses: 231, 240, 241, 250, 251, 253, 254; two 300-level courses taught by two different professors; 398, 399; a total of twelve units.

With the approval of the undergraduate major adviser, the following substitutions may be made: up to two units of archaeology, Oriental, and/or American art may be substituted for the 200-level courses listed above. One unit in fine arts may also be offered for major credit.

All seniors must pass a comprehensive examination as part of their work for Senior Conference (398, 399); the examination is given at the end of Semester II. Most of the work for 399 comprises independent research on a topic of the senior's choice. Seniors whose major average is 3.7 or higher at the end of Semester I are invited to make an honors thesis out of the independent work for 399.

A minor in art history requires six units, normally including 101, 102, and four additional courses selected in consultation with the major adviser.

**101, 102. Introduction to Art History** A survey of western European art from antiquity through modern times. Museum visits required. (Bober, Cast, Levine, Hertel, Division III)

**201. Illustration of Manuscripts and Early Printed Books** A survey of manuscript and book illustration in medieval and early modern western culture, from the origins of textual illustration through the invention of the printed book. Topics include technical aspects of manuscript and book production, relationships with other artistic media, and iconographical and stylistic themes. Prerequisite: History of Art 101 or consent of instructor. (Spain, Division III)

**210. Art of the Late Roman Empire** Art of the third through the sixth centuries in Italy, Greece, Asia Minor, and North Africa, with special attention to the capital cities of Rome, Ravenna, and Constantinople. Field trip. (Kinney, Division III; not offered in 1989-90)

**211. Byzantine Art** The art of Constantinople and its provinces from the ninth through the fourteenth centuries. Field trip to Washington or Baltimore. (Kinney, Division III; not offered in 1989-90)

**212. Medieval Architecture** A survey of mostly church architecture in western Europe from the eighth through the thirteenth centuries, with emphasis on the eleventh and twelfth centuries. Issues treated include the development of



new designs, structural problems and innovations, the transmission of architectural ideas, and the role of pictorial and sculptural decoration. (Kinney, Division III; not offered in 1989-90)

**213. Art of Pre-Renaissance Italy** A survey of the art of Italy in the period before the Renaissance, with particular attention to the identification of Romanesque and Byzantine trends in Italian painting. The intent is to describe the environment of Vasari's first generation of great painters, Cimabue, Duccio, Giotto. (Kinney, Division III; not offered in 1989-90)

**220. Late Medieval Art** Sculpture and architecture of the principle monuments of the eleventh and twelfth centuries in the provinces of Languedoc, Provence, Auvergne, and Burgundy. The development of Gothic art and architecture in the Ile-de-France and northern France (St. Denis, Chartres, Paris, Amiens, and Reims). (Division III; not offered in 1989-90)

**221. International Gothic** Sculpture, book illumination, and panel painting in the major fourteenth-century courts of northern Europe (Avignon, Charles IV in Bohemia, the Valois in France) and the rise of the ars nova in the Netherlands (Jan van Eyck, Rogier van der Weyden, and their heritage) in the fifteenth century. (Division III; not offered in 1989-90)

**229. The Classical Tradition in Western Art** Survivals and revivals of antiquity, with particular reference to the Italian Renaissance as distinguished from earlier renaissances of Theodoric, Charlemagne, Frederick II Hohenstaufen. Specific emphasis varies with the interests of those enrolled. (Bober, Division III)

**230. Renaissance Art I** A survey of painting in Florence and Rome from 1400 to 1500, with particular attention to the account we have by Giorgio Vasari and to contemporary developments in the intellectual and religious life of Italy (Giotto, Masaccio, Botticelli, Leonardo, Michelangelo, Raphael). (Cast, Division III; not offered in 1989-90)

**231. Renaissance Art II** The development of painting in Florence and Rome after 1500 and the idea of Mannerism, with particular attention to the social and religious developments in Italy and Europe in this period (Raphael, Michelangelo, Pontormo, Parmigianino, Titian, El Greco). (Cast, Division III; not offered in 1989-90)

- 235. History of Landscape Painting** A selective survey of European landscape painting and its cultural functions from the late Middle Ages to Romanticism with emphasis on subjects such as the enclosed garden, the four seasons, the pastoral, the sublime (Bruegel, Elsheimer, Ruysdael, Poussin, Watteau, Constable, Friedrich). (Hertel, Division III)
- 240. Baroque Art I: Painting and Sculpture in Italy, Holland, and France** A survey of the works of Caravaggio, the Carracci, Cortona, Bernini, Hals, Rembrandt, Vermeer, Poussin, and Claude Lorraine. Contact with original works in area museums is encouraged. (McKim-Smith, Division III; not offered in 1989-90)
- 241. Baroque Art II: Painting and Sculpture in Spain** A survey of the works by artists of the "Golden Age" in Spain: El Greco, Velazquez, Zurbaran, Ribera, Murillo, Goya. (McKim-Smith, Division III)
- 250. Modern Art I: Painting in France, 1780-1900** Close attention is given to the work of David, Ingres, Géricault and Delacroix. Extensive readings in art criticism are required. (Levine, Division III)
- 251. Modern Art II: Twentieth Century Painting and Sculpture** (Levine, Division III)
- 253. Survey of Western Architecture** The major traditions in western architecture are illustrated through detailed analysis of selected examples from classical antiquity to the present. The course deals with the evolution of architectural design and building technology, as well as with the larger intellectual, aesthetic, and social context in which this evolution occurred. (Lewis, Staff, Division III; cross listed as Growth and Structure of Cities and History 253)
- 254. History of Modern Architecture** A survey of the development of modern architecture since the eighteenth century, with principal emphasis on the period since 1870. (Lane, Division III; cross listed as Growth and Structure of Cities and History 254; not offered in 1989-90)
- 256. Christianity and its Culture in the Middle Ages** A survey of the history of Christianity and its cultural background from its beginnings to the high Middle Ages. We will try to capture a sense of the lives, ideals, and dreams of the

wide variety of people who embraced the Christian religion and the wide variety of forms which that religion could take, from its earliest communities, through the Carolingian Renaissance, to the final emergence towards the end of our period of the huge hierarchical edifice known as "The Church." Among those topics receiving close attention will be artistic developments which reflect the particular concerns of the Christian Church, the relative roles of women and men in the Church, the rise of monasticism, the relations of Christians with Jews and Muslims, the cult of the Virgin Mary, and medieval attitudes toward women.

**300. Problems in Representation: Realism from Caravaggio to 1985** Western art has traditionally valued verisimilitude, yet when a work becomes too realistic it is often rejected or undervalued. Students carry out individual research on works of exceptional naturalism (e.g., Caravaggio, Spanish polychrome sculpture, Dutch seventeenth-century painting, photography, photo-realism, trompe l'oeil). The cultural and theoretical bases for controversy about these subjects are examined. (McKim-Smith; not offered in 1989-90)

**301. Problems in Representation: History of Photography** Students carry out individual research on an artist or an area in the history of photography from the seventeenth century to the present day. Problems such as mimesis vs. metaphor are considered, as well as photography's relationship to its contemporary fine arts. (McKim-Smith; not offered in 1989-90)

**302. Methodological and Critical Approaches to Art History** A survey of traditional and contemporary approaches to the history of art, including formal analysis, iconography, Marxism, feminism, psychoanalysis, and semiotics. A critical analysis of a problem in art historical methodology is required as a term paper. (Levine; not offered in 1989-90)

**303. Art and Technology** This course considers the technological examinations of paintings. While studying the appropriate aspects of technology (such as the infrared vidicon, the radiograph and autoradiograph, analysis of pigment samples and pigment cross-sections), the course will also encourage the student to approach the laboratory in a spirit of creative scrutiny. Raw data neither ask nor answer questions, and it will remain the province of the student to shape meaningful questions and answers. The course will both acquaint the

student with the technology involved in examining paintings and encourage the student to find fresh applications for available technology in answering art historical questions. (McKim-Smith, Division III)

**313. Principles of Medieval Style** Analysis of the formal characteristics peculiar to medieval art. (Kinney; not offered in 1989-90)

**314. Principles of Medieval Iconography** Analysis of the language of medieval art: its themes, traditions, conventions, and levels of meaning inaccessible without primary research. Particular topics (iconography of late antiquity, secular imagery in the later Middle Ages, iconography of the Virgin Mary) differ from year to year. (Kinney; not offered in 1989-90)

**320. Problems in Netherlandish Art** Selected topics in Flemish and Dutch art, fifteenth through seventeenth centuries. A reading knowledge of German and/or French is required for most research projects. (Staff)

**323. Topics in Renaissance Art** Selected subjects in Italian art from painting, sculpture, and architecture between the years 1400 and 1600. (Cast; not offered in 1989-90)

**330. The Classical Tradition in Western Art** Selected topics in Italian and European art from 1400 to 1800 that depend on the tradition of classical art, to be chosen from the particular interests of the members of the seminar. (Cast; not offered in 1989-90)

**350. Topics in Modern Art** Individual topics are chosen for intensive consideration such as rococo, classicism, realism, impressionism, surrealism, the body in art, art about art. (Levine)

**354. Topics in Art Criticism** Individual topics are treated in alternate years, such as art and psychoanalysis, nineteenth- and twentieth-century art criticism, film theory and criticism. (Levine; not offered in 1989-90)

**355. Topics in the History of London** Selected topics of social, literary, and architectural concern in the history of London, emphasizing London since the eighteenth century. (Cast)



**377. Topics in the History of Modern Architecture** Selected aspects of the history of modern architecture, such as housing, public buildings, industrial buildings, are studied in detail. The course concentrates on actual building types, rather than on the design ideas of a few great architects. A reading knowledge of French or German is desirable. (Lane; cross listed as History 377; not offered in 1989-90)

**398. Senior Conference** Reading, analysis, and discussion of key works of art historical writing. Seminar format. Required of all seniors. (Staff)

**399. Senior Conference** Students pursue independent research projects, under the guidance of appropriate faculty members, and present synopses of their work to other seniors and to faculty for discussion at weekly meetings. A comprehensive examination at the end of the semester tests the student's mastery of the general outlines of art history, as well as her critical overview of the discipline and her knowledge of two specific fields. A grade of 2.0 is required for graduation. (Staff)

**403. Supervised Work** Advanced students may do independent research under the supervision of a faculty member whose special competence coincides with the area of her interest. Consent of the supervising faculty member and of the major adviser is required.

## **HISTORY OF RELIGION**

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*Professor:*

Samuel Tobias Lachs, Ph.D., D.D., D.H.L., *Chairman*

*Visiting Lecturer:*

David Rabeeya, Ph.D.

### **Affiliated Faculty**

James Tanis, Th.D., *Rufus M. Jones Professor of Philosophy and Religion and Director of Libraries*

A major program in history of religion is offered at Bryn Mawr and a major in religion at Haverford. The history of religion major concentrates on the historical study of the religious traditions which have contributed most to shaping the culture of the West: Judaism and Christianity. The student is expected to achieve facility in critical analysis of the primary sources of these traditions and in tracing their development against the background of the cultural situations in which they arose and matured.

Requirements in the major subject are eight courses in history of religion, of which at least two must be in a tradition other than that of the student's concentration. The senior conference is also required.

The normal pattern for the major consists of two introductory courses (100 level), four intermediate courses (200 level), and two advanced courses (300 level). Students in advanced courses who are majoring in history of religion are required to demonstrate a working knowledge of the language appropriate to their field of concentration: Hebrew for Biblical or Rabbinic Judaism, Greek for New Testament or Early Christianity, Latin for medieval Christianity, German for the Reformed period.

## LANGUAGE COURSES

**001, 002. Elementary Hebrew** Grammar, composition, and conversation with primary emphasis on fluency in reading; designed for preparation in reading classical religious texts. This is a year-long course; both semesters are required for credit. (Rabeeya)

**101. Readings in the Hebrew Bible** (Rabeeya, Division III)

**102. Readings in the Prose of Genesis** Hebrew composition, grammar, and conversation based on the Hebrew text. (Rabeeya, Division III)

**202. Readings in Rabbinic Literature** (Lachs; not offered in 1989-90)

**203. Readings in the Hebrew Bible** 1989-90: Joshua-Judges. This course may be repeated for credit. (Rabeeya, Division III)

**212. Readings in the Greek New Testament** Selections from the Gospels, Acts, and Epistles. (Hamilton, Division III; cross listed as Greek 103)

**304. Advanced Post-biblical Hebrew 1989-90: Mishnah Megillah.** This course may be repeated for credit. (Rabeeya)

### **HISTORY OF RELIGION COURSES**

**104. History and Literature of Judaism: From the Biblical Era through the Geonic Period** Major focus on the literature. (Lachs, Division III)

**105. History and Literature of Judaism** Modern movements from the French Revolution to the present. (Lachs, Division III)

**108. History and Literature of the Bible** A study of the history of Israel and its sacred literature against the background of the ancient Near East, the development of the legal, prophetic, and wisdom traditions. (Lachs, Division III)

**201. Topics in Biblical Literature** Apocrypha and Pseudepigrapha. (Lachs, Division III)

**210. Jewish Ethics and Theology** (Lachs, Division III)

**213. Jewish Literature in Translation: The Talmud** (Lachs, Division III; not offered in 1989-90)

**215. Jewish Law and Folklore: The Life Cycle** (Lachs, Division III)

**216. Jewish Law and Folklore: The Calendar Cycle** (Lachs, Division III)

**217. Early Chinese Belief** (Nylan, Division III)

**218. Greek and Roman Religion** A comparative study of religious practice in the Roman Republic and fifth-century Athens. (Division III; cross listed as Greek and Latin 218)

**237. Evolving Roles of Women in Judaism** A sociological analysis of the evolution of women's roles in Judaism throughout history with emphasis on the contemporary

American Jewish community. Includes the Biblical and Rabbinic attitudes toward women as a context for examining the changing roles in ritual communal life today. (Division I)

**270. The Jew in American Literature** An analysis of the cultural interaction of the Jew with nineteenth- and twentieth-century American civilization as seen by Jewish and non-Jewish writers including Hemingway, Roth, Bellow, Potok, Ozick, and Malamud. (Division III; not offered in 1989-90)

**271. Sociology of the American Jewish Community** An overview of the sociology of the American Jewish community in the context of the social history of American Jewry. Topics include demography and social characteristics of the community as well as its social structure and institutions. (Division I)

**272. Topics in Modern Jewish History: Holocaust** The course emphasizes the literature which has come out of this tragic period, such as diaries, official records, and memoirs. (Division III; not offered in 1989-90)

**274. Peoples of Israel** A survey of ethnic groups and social institutions in Israel against the background of contemporary Israeli society from a sociological perspective. (Not offered in 1989-90)

**300. Studies in Early Rabbinic and Medieval Judaism** This course may be repeated for credit. (Lachs)

**398, 399. Senior Conference** Consists of a year-long seminar in which the students are introduced to the major literary materials, secondary sources, reference works, and critical issues in the literature of Judaism and Early Christianity during the period approximately 200 B.C. to 200 C.E. In the second semester the students present to the seminar a report on some theme or problem on which they have conducted research. (Lachs)



# HUMAN DEVELOPMENT

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*Professors:*

Emmy A. Pepitone, Ph.D.

Robert H. Wozniak, Ph.D., *Chairman*

*Associate Professor:*

Mary McCaslin Rohrkemper, Ph.D.

*Assistant Professors:*

Sharon Lamb, Ed.D.

Leslie Rescorla, Ph.D. (on leave, 1989-90)

*Lecturers:*

Peter Goldenthal, Ph.D.

Katherine Gordon-Clark, Ph.D.

Carol Roberts, Ph.D.

Beatrice Wood, Ph.D.

Jean Wu, Ph.D.

*Laboratory Coordinator:*

Barbara Lorry, Ph.D.

The Department of Human Development offers undergraduates a selective academic curriculum which focuses on developmental, abnormal, and personality psychology and the social and psychological foundations of education. Undergraduate students avail themselves of this curriculum to increase their understanding of theory and research in human development and educational process and to prepare for future study and work in psychology, education, and related fields. Certain human development courses may also be taken as part of the major in psychology and in other departments.

*Secondary School Teaching Certification:* In addition to offering general courses, the department cooperates with many other departments and Swarthmore College in a program preparing students for secondary school teaching certification. Cooperating departments at Bryn Mawr are the Departments of Anthropology, Biology, Chemistry, Economics, English, French, History, Latin, Mathematics, Physics, Sociology, and Spanish.

Students expecting to teach are urged to confer with the department during the freshman year in order to coordinate courses in the education program with the major subject

curriculum in which the student intends to teach. For students preparing for teaching, one semester of the senior year is devoted to student teaching. During student teaching, which is supervised by the Program in Education at Swarthmore College, the student must be prepared to be in a high school throughout the school day, five days a week, and attend a weekly, two-hour seminar on teaching effectiveness.

Requirements for the state certificate to teach in the public secondary schools can be met by the appropriate selection of courses in this department and in the major field or fields. Though each state has its own requirements, most follow the same pattern, namely the bachelor of arts degree with emphasis upon a content area offered in the secondary school plus professional preparation for teaching.

**103. Introduction to Education** A survey of issues in education within an interdisciplinary framework. The course gives students an opportunity to determine their own interest in preparing to teach, as well as furnishing first-hand experience in current elementary and secondary school practice. Field work is required. (Division I)

**16. Practice Teaching** (at Swarthmore) Supervised teaching in secondary schools. Students seeking secondary certification must take Education 17 concurrently. Two units of credit are given for this course.

**17. Curriculum and Methods Seminar** (at Swarthmore) A consideration of theoretical and applied issues related to effective classroom instruction. It must be taken concurrently with Education 16 for students planning to be certified and may not be taken without taking Education 16.

**203. Educational Psychology** Topics in the psychology of human cognitive, social, and affective behavior are examined and related to educational practice. Laboratory work is required. Prerequisites: Psychology 101, 102. (Rohrkemper, Division I)

**206. Developmental Psychology** A topical survey of psychological development from infancy through adolescence, focusing on the interaction of organismic and environmental factors in the ontogeny of perception, language, cognition, affect, action, and social interaction within the family and with peers. Prerequisites: Psychology 101, 102. (Wozniak, Division I)

**207. Adolescent Development** Patterns of development—physical, cognitive, emotional, and social—as they relate to the adolescent period. Theory and research focusing on adolescents in home, school, and society. Three hours a week with laboratory or other independent work required. Prerequisite: Psychology 101 and 102. (Division I)

**210. Theories of Personality** A survey of psychoanalytical, interpersonal, humanistic, and existential theories of human nature and human motivation, focusing primarily on specific theories of Freud, Erikson, Jung, Horney, Rogers, and May, and supplemented by pertinent experimental findings. (Lamb, Division I)

**309. Abnormal Psychology** An examination of the main psychological disorders manifested by individuals across the life span. Historical overview followed by a review of the major models of psychopathology, including the medical, the psychodynamic, the behavioral, the cognitive, the family systems, and the humanistic. Disorders covered include autism, anorexia/bulimia, anxiety disorders, psychophysiological disorders, substance abuse, depression, schizophrenia, and Alzheimer's disease. Issues of classification, theories of etiology, research on prognosis, and studies of treatment are discussed.

**350. Developmental Cognitive Disorders** A survey of language disorders, mental retardation, perceptual and reading disability/dyslexia, attentional deficits, memory problems, and other forms of learning disability in children and adolescents, utilizing a developmental and neuropsychological framework to study the various cognitive disorders within the context of the normal development of perception, attention, memory, language, mathematical concepts, and reading. Research on the assessment, classification, outcome, and remediation of the major cognitive disorders manifested by children and adolescents are also covered. Prerequisites: Psychology 206 or 207. (Lamb)

Graduate seminars in the Department of Human Development are open to qualified undergraduates with the consent of the instructor, the student's dean, and the dean of the Graduate School of Arts and Sciences.

# ITALIAN

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*Professor:*

Nancy Dersofi, Ph.D. (on leave, Semester II, 1989-90)

*Associate Professor:*

Nicholas Patruno, Ph.D., *Chairman*

**At Haverford College**

*Instructor:*

Ute Striker, M.A.

The aims of the major are to acquire a knowledge of Italian language and literature and an understanding of Italian culture. Major requirements in Italian are ten courses: Italian 101, 102; 201 or 202 and one other course at the 200 level; Italian 301; Italian 304 and four other advanced, two of which may be in an allied field. Majors may take the courses on Petrarch and Boccaccio (303) and the Renaissance (304) at the 200 level (208 and 209), provided they read the texts in Italian and submit written work in Italian. Courses allied to the Italian major include, with departmental approval, all courses for major credit in ancient and modern languages and related courses in archaeology, art history, history, music, philosophy, and political science. Each student's program is planned in consultation with the department. With departmental approval students who begin their work in Italian at the 200 level will be exempted from Italian 101 and 102.

Italian majors are encouraged to study in Italy during the junior year in a program approved by the department. The Bryn Mawr/University of Pennsylvania summer program in Florence offers courses each summer for major credit in Italian, or students may study in other approved summer programs in Italy or in the United States. Courses for major credit in Italian may also be taken at the University of Pennsylvania. Students on campus are encouraged to live in the Italian House and they are expected to make extensive use of the facilities offered by the Language Laboratory Center.

The requirement for honors in Italian is a grade point average of 3.7 in the major and a research paper written, at the invitation of the department, either in Senior Conference or in a unit of supervised work.



Requirements for the minor in Italian are Italian 101, 102 and four additional units.

**001, 002. Elementary Italian** A practical knowledge of the language is acquired through a study of grammar, hearing, speaking, writing, and reading. The language laboratory is available for practice in hearing and speaking. This is a year-long course; both semesters are required for credit. (Dersofi, Patruno, Striker)

**101, 102. Intermediate Course in the Italian Language** A review of grammar and readings from selected Italian authors with topics assigned for composition and discussion; conducted in Italian. (Dersofi, Patruno)

**103. Stylistics and Expression**

**201. Prose and Poetry of Contemporary Italy** A study of the artistic and cultural developments of pre-Fascist, Fascist, and post-Fascist Italy seen through the works of poets such as Ungaretti, Montale, and Quasimodo and through the novels of Pirandello, Moravia, P. Levi, Silone, Vittorini, Pavese, Ginzburg, and others. Recommended for those who have just completed Italian 102 or its equivalent. (Patruno, Division III)

**202. The Short Story of Modern Italy** An examination of the best of Italian short stories from post-Unification to contemporary Italy. In addition to their intrinsic appreciation, these works are viewed within the context of related historical and political events. Authors include Verga, D'Annunzio, Pirandello, Moravia, Calvino, Buzzati, Ginzburg. (Patruno, Division III)

**203. Italian Theater** Examination of selected plays from the Renaissance to the present, including plays by Machiavelli, Ruzante, Goldoni, Alfieri, Giacosa, Chiarelli, D'Annunzio, Pirandello, and Dario Fo. (Dersofi, Division III)

**204. Foscolo, Leopardi, and Manzoni** A study of the Italian Romantic movement as reflected in these writers. (Patruno, Division III)

**206. Literature of the Nineteenth Century** A study of the literary currents following the Romantic movement, with

special attention to Decadentismo and Verismo. (Patruno, Division III)

**207. Dante in Translation** An historical appraisal and a critical appreciation of the *Divine Comedy* with attention to some of Dante's other works. (Patruno, Division III)

**208. Petrarca and Boccaccio in Translation** A study of Petrarca's *Canzoniere* and Boccaccio's *Decameron* as examples of a changing society. (Patruno, Division III)

**209. Humanism and the Renaissance** In translation. An introduction to Italian Humanism and to literature and culture in the fifteenth and sixteenth centuries, including works by Castiglione, Machiavelli, Ariosto, Tasso, and Campanella. (Dersofi, Division III)

**210. Women and Opera** A study of the ways in which opera represents, reflects, and influences images of women. Topics include the status of female artists on the operatic stage and the representation of women. Approximately ten operas are considered. Libretti, in Italian, French and German, may be read in translation; students are expected to read the Italian texts in the original for major credit. (Dersofi, Division III)

**301. Dante** A study of the *Divina Commedia*. Prerequisite: two years of Italian or the equivalent. (Dersofi, Division III)

**303. Petrarca and Boccaccio** A study of Petrarca's *Canzoniere* and Boccaccio's *Decameron*. Prerequisite: two years of Italian or the equivalent. (Dersofi, Division III)

**304. The Renaissance** A study of selected texts by Poliziano, Leon Battista Alberti, Lorenzo de' Medici, Castiglione, Machiavelli, Ariosto, and Tasso. Prerequisite: two years of Italian or the equivalent. (Dersofi, Division III)

**305. Literature of the Settecento** (Dersofi, Division III; offered on demand)

**399. Senior Conference** Under the direction of the instructor, each student prepares a paper on an author or a theme which the student has chosen. At the end of the semester students choose and demonstrate knowledge of three authors or topics of different periods by either an oral or written

examination, according to their preference. This course is open only to senior Italian majors. (Dersofi, Patruno)

## LATIN

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*Professors:*

Julia H. Gaisser, Ph.D., *Eugenia Chase Guild Professor in the Humanities and Chairman (on leave, 1989-90)*

Russell T. Scott, Ph.D., *Acting Chairman*

Myra L. Uhlfelder, Ph.D.

*Lecturer:*

Elizabeth Block, Ph.D.

The major in Latin is designed to acquaint the student with Roman literature and culture, which are examined both in their classical context and as influences on the medieval and modern world.

Requirements for the major are ten courses: Latin 101, 102, two literature courses at the 200 level, two literature courses at the 300 level, History 207 or 208, Senior Conference, and two courses to be selected from the following: Latin 205; Classical Archaeology or Greek at the 100 level or above; French, Spanish, or Italian at the 200 level or above. Courses taken at the Intercollegiate Center for Classical Studies in Rome (see page 82) are accepted as part of the major. Latin 205 is required for those who plan to teach. By the end of the senior year, majors will be required to have completed two examinations: sight translation from Latin to English and a comprehensive examination on Latin literature.

Requirements for the minor are six courses, two of which must be at the 300 level. For non-majors, two literature courses at the 200 level must be taken as a prerequisite for admission to a 300-level course.

On the invitation of the department, students may write an honors paper in their senior year. Students who place into 200-level courses in their freshman year may be eligible to participate in the A.B./M.A. program. Those interested should consult the department as soon as possible.

**001, 002. Elementary Latin** Basic grammar and composition and Latin readings, including classical prose and poetry. This is a year-long course; both semesters are required for credit. (Uhlfelder, Scott)

**003. Intermediate Latin** Intensive review of grammar, reading in classical prose and poetry. For students who have had the equivalent of two years of high school Latin or are not adequately prepared to take Latin 101. (Staff)

**004. Intermediate Latin** Readings in classical prose or poetry. (Staff)

**101. Latin Literature** Selections from Catullus and Cicero. Prerequisites: Latin 001-002 or 003-004 or placement by the department. (Scott, Division III)

**102. Latin Literature** Selections from Livy and Horace's *Odes*. Prerequisite: Latin 101 or placement by the department. (Uhlfelder, Division III)

**201. Advanced Latin Literature: Comedy** Three comedies of Plautus and Terence. (Scott, Division III)

**202. Advanced Latin Literature: The Silver Age** Readings from major authors of the first and second centuries A.D. (Division III)

**204. Medieval Latin Literature** Selected works of Latin prose and poetry from the late Roman Empire through the Carolingian Renaissance. (Uhlfelder, Division III)

**205. Latin Style** A study of Latin prose style, based on readings of prose authors and exercises in composition, and of Latin metrics with practice in reading aloud.

**207. Roman History** A study of Rome from the beginning of the third century B.C. to the end of the Republic with focus on the rise of Rome in Italy, the Hellenistic world, and the evolution of the Roman state. Ancient sources, literary and archaeological, are emphasized. (Scott, Division III; cross listed as History 207; not offered in 1989-90)

**208. The Roman Empire** Imperial history from the principate of Augustus to the House of Constantine with focus on



the evolution of Roman culture as presented in the surviving ancient evidence, literary and archaeological. (Scott, Division III; cross listed as History 207)

**215. The Ancient Stage** The development from early Greek tragedy through the pivotal tragi-comedies of Euripides to new comedy and its Roman successors. (Division III; cross listed as Greek 215)

**218. Greek and Roman Religion** A comparative study of religious practice in the Roman Republic and fifth-century Athens. (Division III; cross listed as Greek and History of Religion 218)

**301. Vergil's Aeneid** (Division III)

**302. Livy and Tacitus** (Division III)

**303. Lucretius** Study of the *De Rerum Natura* and its philosophic background. (Uhlfelder, Division III)

**304. Cicero and Caesar** (Division III)

**305. Livy and the Conquest of the Mediterranean** Close analysis of Livy's account of the Second Macedonian War, the Syrian War, and the origins of the Third Macedonian War. Emphasis is on Livy's method of composition and reliability and on his general historical outlook and that of other authors who covered the period. The relevant sections of Polybius' history, Plutarch's biographies of Flamininus, the Elder Cato, and Aemilius Paullus as well as all relevant inscriptions are dealt with in English. On consultation with the instructor arrangements can be made to accommodate the Latinless historian and students of Greek.

**398. Senior Conference** Topics in Latin literature.

The following courses are also of interest to Latin majors:

**History 207, 208. Roman History**

**Classical and Near Eastern Archaeology 324. Roman Architecture**

Haverford College offers the following courses in Latin:

**Classics 002. Elementary Latin**

**Classics 102. Introduction to Latin Literature**

**Classics 252. Advanced Latin**

## **MATHEMATICS**

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*Professors:*

Frederic Cunningham, Jr., Ph.D.

Rhonda J. Hughes, Ph.D., *Chairman*

Mario Umberto Martelli, Ph.D. (on leave, 1989-90)

*Associate Professors:*

Paul Melvin, Ph.D.

Kyewon Koh Park, Ph.D.

*Instructors:*

Mary Louise Nigro, M.A.

Peter Kasius, M.A.

The major program in mathematics provides a balanced introduction to pure and applied mathematics. Students intending to continue with graduate work in mathematics will want to take more than the minimum major requirements described below.

Students majoring in mathematics are required to take a minimum of ten courses at the 200 level or higher, to include 201, 203, 301, 302, 303, (or the equivalent) and at least one Senior Conference. Any of this work other than the Senior Conference may be taken at Haverford or elsewhere.

For students entering with advanced placement credits it is possible to earn both the A.B. and M.A. degrees in an integrated program in four or five years. See also the Department of Physics (page 234) for a description of the five-year joint programs with the California Institute of Technology and the University of Pennsylvania for completing both an A.B. at Bryn Mawr and an engineering degree from Caltech or Penn.

The degree with honors in mathematics is awarded by the department to students who have achieved excellence in the work of the major and in a program of independent work undertaken in the senior year, including an honors thesis, which may be an expository paper or some original research.

Requirements for the minor in mathematics are six courses in mathematics at the 100 level or higher, of which at least two are 300 level or higher. Math AP credits with a score of 4 or 5 may be counted toward the minor in mathematics.

The Departments of Mathematics and Physics offer a joint independent major in mathematical physics, supervised by Professor Albano (physics) and Professor Hughes (mathematics). Students interested in this program are encouraged to consult either one of these two faculty members.

Any course in mathematics at the 100 level or above satisfies the College requirement of work in mathematics or quantitative skills. Moreover, students who choose to fulfill the additional work requirement in mathematics, rather than language, must take a semester of calculus and any other semester course in mathematics at the 100 level or above. Consult the curriculum section of this catalogue for further information.

**001. Fundamentals of Mathematics** Basic techniques of algebra, analytic geometry, graphing, and trigonometry, for students who need to improve these skills before entering other courses which use them, both inside and outside mathematics. Placement in this course is by advice of the department and consent of instructor. (Staff)

**101, 102. Calculus with Analytic Geometry** Differentiation and integration of algebraic and elementary transcendental functions, with the necessary elements of analytic geometry and trigonometry; the fundamental theorem, its role in theory and applications, methods of integration, applications of the definite integral, infinite series. Prerequisite: Math readiness or consent of instructor. (Division II or Quantitative Skills)

**103. Matrices and Linear Programming** Matrices, linear equations, and inequalities; linear programming problems, with applications; the simplex algorithm; duality and two-person matrix games. Elementary computer programming is included so that non-trivial problems can be solved numerically. Other uses of matrices as time permits, such as

Markov chains, or incidence matrices of graphs. Prerequisite: Math readiness or consent of instructor. (Division II or Quantitative Skills)

**104. Elements of Probability and Statistics** Basic concepts and applications of probability theory and statistics including: finite sample spaces, permutations and combinations, random variables, expected value, variance, conditional probability, hypothesis testing, linear regression, and correlation. The computer is used; prior knowledge of a computer language is not required. Prerequisite: Math readiness or consent of instructor. (Nigro, Division II or Quantitative Skills)

**105. Calculus and Probability** A first course in calculus, motivated by the applications to probability. Basic concepts of calculus are covered, together with ideas from probability theory. Topics include random events and random variables; discrete and continuous distributions on the real line; probability laws as set functions and their graphical representations; cumulative probability function, and probability density as its derivative; the definite integral developed for computing probabilities, averages, and measures of dispersion; the fundamental theorem of calculus; exponential and normal distributions; joint distributions as set functions in the plane, hence double integrals. Prerequisite: Math readiness or consent of instructor; no previous calculus is expected. This course may not be taken in addition to Mathematics 101. (Division II or Quantitative Skills)

**201. Multivariable Calculus** Vectors and geometry in two and three dimensions, partial derivatives, extremal problems, double and triple integrals, line and surface integrals, Green's and Stokes' Theorems. Prerequisites: Mathematics 102 or consent of instructor. (Division II or Quantitative Skills)

**202. Vector Calculus** Calculus in  $R^n$ , the total differential, implicit and inverse function theorems, multiple integrals, integration on manifolds, Green's and Stokes' Theorems. Prerequisite: Mathematics 201. (Division II or Quantitative Skills)

**203. Linear Algebra** Matrices and systems of linear equations, vector spaces, and linear transformations, determinants, eigenvalues and eigenvectors, inner product spaces, and quadratic forms. Prerequisites: Mathematics 102 or consent



of instructor. Meets Division II requirement. (Division II or Quantitative Skills)

**204. Differential Equations** Linear differential equations with constant coefficients, first and second order linear differential equations with non-constant coefficients, Frobenius method, systems of differential equations, stability and phase portrait. Prerequisite: Mathematics 201 or 203 or consent of instructor. (Division II or Quantitative Skills)

**205. Theory of Probability with Applications** Random variables, probability distributions on  $\mathbb{R}^n$ , limit theorems, random processes. Prerequisite: Mathematics 102. (Division II or Quantitative Skills)

**231. Discrete Mathematics I** An introduction to several topics in discrete mathematics with strong applications to computer science. Topics include set theory, functions and relations, propositional logic, proof techniques, recursion, graph theory, and counting techniques. (Yoshimura, Division II or Quantitative Skills)

**232. Discrete Mathematics II** Additional topics in discrete mathematics with strong applications in computer science. Topics include algebraic structures (monoids, lattices, and Boolean algebras), formal language theory (regular and context free languages), machines (automata and Turing machines), computability and complexity theory. (Yoshimura, Division II or Quantitative Skills)

**251. Chaotic Dynamical Systems** Limits, Cantor set, periodic points of a map, chaotic maps, maps on a circle and torus, bifurcation theory, Mandelbrot set, fractals, and Julia sets. Prerequisite: Mathematics 102. (Park, Division II or Quantitative Skills)

**301, 302. Introduction to Real Analysis** The real number system, elements of set theory and topology, continuous functions, uniform convergence, the Riemann integral, power series, Fourier series, and other limit processes. Prerequisite: Mathematics 201.

**303, 304. Abstract Algebra** Groups, rings, fields, and their morphisms. Prerequisites: Mathematics 201 and 203, or consent of instructor.

**306. Mathematical Physics** Complex variables, Hilbert spaces, Fourier series, Sturm-Liouville problems, potential, heat and wave equations, elements of bifurcation theory. Prerequisites: Mathematics 201, or consent of instructor. (Cross listed as Physics 306)

**311. Differential Equations** (Not offered in 1989-90)

**312. Topology** Point set topology, connectedness, compactness, paracompactness, separability, metric spaces. Prerequisite: consent of instructor. (Melvin)

**322. Functions of Complex Variables** Complex numbers, functions of complex variables, analyticity, Cauchy integral theorem and Cauchy integral formula, Laurent series, residues, conformal mappings, Moebius and Schwarz-Christoffel transformations. Prerequisites: Mathematics 201 or consent of instructor.

**398, 399. Senior Conference** A seminar for seniors majoring in mathematics. Topics vary from year to year.

**403. Supervised Work**

Haverford College offers the following courses in mathematics:

**113, 114. Calculus I and II**

**204. Differential Equations**

**205. Algorithms and Data Structures**

**215, 216. Calculus III and IV**

**218. Probability and Statistics**

**220. Elementary Complex Analysis**

**227. Introduction to Mathematical Logic**

**250. Combinatorial Analysis**

**317, 318. Analysis I and II**

333, 334. Algebra I and II

335, 336. Topology I and II

350. Topics in Computer Science

390. Advanced Topics in Algebra and Geometry (Number Theory)

398. Advanced Topics in Logic and Foundations of Mathematics

399. Senior Departmental Studies

## MUSIC

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At Haverford College

*Professor:*

John H. Davison, Ph.D.

*Associate Professor:*

Curt Cacioppo, Ph.D., *Chairman*

*Visiting Assistant Professor:*

Richard Freedman, Ph.D.

*Lecturers:*

Regina Gordon, M.M., *Choral Conductor*

James E. Ross, *Orchestral Conductor*

At Bryn Mawr College

*Professor:*

Isabelle Cazeaux, Ph.D., *Alice Carter Dickerman Professor*

The music curriculum is designed to deepen understanding of musical form and expression through development of compositional and performance skills and acquisition of style-

analytical perspective. A major in music provides a foundation for further study leading to a career in music.

The theory program stresses proficiency in aural, keyboard, and vocal skills, and written harmony and counterpoint. Composition following important historical models and experimentation with contemporary styles are emphasized. The music history program provides a comprehensive view of the evolution of Western art music and introduces students to basic sources and research methods.

The performance program offers opportunities to participate in the Haverford-Bryn Mawr Chamber Singers, Chorale, Symphony, and ensembles formed within the context of Haverford's Chamber Music Seminar. Music 214c; 215c,f,i; 216c; and Private Study 117f, 118f-417a, 418b are academically credited courses.

The requirements for the major are: Theory-composition 105a, 106b, 203a or b, 204a or b, 303a, 304b; History 221a, 222b, 223a, 224b; one upper-level elective in music (for example, 307a or b, 324b, 326b, 403a, 404b). Students whose pre-college training places them out of theory and history courses may substitute more advanced study to fulfill the number of courses required. Performance—participation in a department sponsored performance group for at least one year—is required. With departmental approval, participation in a jazz ensemble may satisfy the performance requirement. Continuing instrumental or vocal private study is strongly urged. Majors are expected to attend the majority of department sponsored concerts and colloquia. Majors must complete satisfactorily a senior project which demonstrates focused achievement in one of the three principal areas of music theory—composition, history, performance—and substantial knowledge in all of them. Time and guidance for the senior project are normally provided through the student's taking either a 480 course or a regular course for double credit. Project topics should receive music faculty approval no later than October 31 of the student's senior year. Music contributes to the areas of concentration, and the Department of Music welcomes proposals for interdisciplinary major programs involving music.

The requirements for the minor are Theory-composition 105a, 106b, 203a or b, 204a or b, or 303a; History 222b, 223a, 244b, either 221a or 403b; and performance—participation in a department sponsored performance group for one year. A minor in music is open only to Bryn Mawr students.



Departmental honors or high honors are awarded on the basis of superior work in music courses combined with exceptional accomplishment in the senior project.

## THEORY AND COMPOSITION

**105a. Musicianship and Literature I** Preliminary intensive exercise in ear-training, sight-singing, and aural harmony, and investigation of principal works of the baroque and classical periods through guided listening and analysis. (Ross)

**106b. Musicianship and Literature II** A continuation of Music 105. (Ross)

**107a. Introductory Piano** For students with little or no keyboard experience. Basic reading skills and piano technique; scales, arpeggios, and compositions in small forms by Bach, Mozart, and others. Enrollment limited to sixteen students. (Davison)

**203a, b. Principles of Tonal Harmony I** A study of the harmonic vocabulary and compositional techniques of Bach, Haydn, Mozart, Beethoven, Schubert, and others. Emphasis on composing melodies, constructing phrases, and harmonizing in four parts. Composition of minuet and trio or other homophonic pieces as final project. Lab drills include keyboard harmony and analysis. Three class hours and one laboratory period a week. Prerequisite: Music 105 or consent of instructor. (Cacioppo)

**204a, b. Principles of Tonal Harmony II** Extension of Music 203. Chorale harmonization, construction of more complex phrases; composition of original theme and variations as final project. Lab drills include keyboard harmony and score study. Three class hours and one laboratory period a week. Prerequisite: Music 203 or consent of instructor. (Cacioppo)

**303a. Advanced Tonal Harmony I** Review of chorales, introduction to chromatic harmonization; composition in forms such as waltz, nocturne, intermezzo; exploration of accompaniment textures. Lab continues. Three class hours and one laboratory period a week. Prerequisite: Music 204 or consent of instructor. (Davison)

**304b. Advanced Tonal Harmony II** Composition in larger forms such as sonata, rondo. Lab continues with emphasis on keyboard harmony, score reduction, analysis, and atonal exercises. Three class hours and one laboratory period a week. Prerequisite: Music 303 or consent of instructor. (Davison)

**403b. Seminar in Twentieth-century Theory and Practice** Examination of classic and contemporary twentieth-century composers, works, and trends, with reference to theoretical and aesthetic writings and the broader cultural context. Prerequisite: Music 204 or consent of instructor. (Cacioppo)

**404b. Counterpoint** A study of eighteenth-century contrapuntal techniques and forms with emphasis on the works of J. S. Bach. Modal counterpoint; canon; composition of two-part contrapuntal dance (such as gavotte); invention; introduction to fugal writing; analysis of works from supplemental listening list. Prerequisite: Music 304 or consent of instructor. (Davison)

## PERFORMANCE

**117f, 118i, 217f, 218i, 317f, 318i, 417a, 418b. Vocal or Instrumental Private Study** To receive credit for private study, students must be participating in a departmentally approved ensemble (such as Chorale, Chamber Singers, Symphony, or Music 215 Seminar group) and perform for a faculty jury at the end of the semester of study. Teachers submit written evaluations at the end of the semester's work. Grades, given at the 200-400 levels, are determined on the basis of all available material. Full credit is automatically given at the 400 level only; requests for full credit at the 100-300 level will be considered by the department. A maximum of two credits of private study may be applied toward graduation. All financial arrangements are the student's responsibility. Private study subsidies may be applied for at the beginning of each semester's study through the department or the Bryn Mawr Office for the Arts. Prerequisites: Any non-private study, full-credit course offered by the Department of Music at Haverford (may be taken concurrently with private study; if two half-credit courses are to be applied toward this prerequisite, only the second may be taken concurrently); departmental audition to determine level; departmental approval of

proposed teacher. (Gordon, vocal; Ross, instrumental; Cacioppo, keyboard)

**213f. Solo Vocal Literature** A study of a wide variety of vocal literature emphasizing introductory Italian, German, and English repertoire from analytical and performance standpoints. Prerequisite: One year of Bryn Mawr/Haverford choral ensemble, or private vocal study, or consent of instructor. (Gordon)

**214c. Seminar in Analysis and Performance of Choral Literature** Available to students participating in the Haverford-Bryn Mawr Chamber Singers. Research into the special musical problems of literature, rehearsed and performed during the semester. (Gordon)

**215c, f, i. Ensemble and Accompanying Seminar** Intensive rehearsal of works for small groups, with supplemental research and listening assigned. Performance required. Available to instrumentalists and vocalists who are concurrently studying privately or who have studied privately immediately prior to the start of the semester. Prerequisite: Audition and consent of instructor. (Cacioppo)

**216c. Seminar in Analysis and Performance of Orchestral Literature** For students participating in the Haverford-Bryn Mawr Symphony. Research into the special musical problems of literature rehearsed and performed during the semester. (Ross)

**307a, b. Topics in Piano** A combination of private lessons and studio/master classes, musical analysis, research questions into performance practice and historical context, and critical examination of sound recorded sources; preparation of works of selected composer or style period for end of semester class recital. Topics change each semester. For qualified pianists. Prerequisite: audition.

## HISTORY

**102a. Introduction to Western Music** (also called General Programs 101a) A study of the elements of music (rhythm, melody, polyphony, timbre, texture, orchestration) considered in a broad cultural context, followed by a survey of selected

masterworks of Western art music from the Middle Ages to the present. May not be counted toward the major. (Freedman)

**126a, b. Topics in World Music: Introduction to the History of Jazz** An historical survey of the origins, phases, and recent directions of jazz as the most significant area of African American music. May be applied toward fulfillment of requirements for the major with special departmental approval. (Freedman)

**221a. Medieval and Renaissance Music** An examination of the music of the medieval and Renaissance periods emphasizing study of techniques and styles, performance practice and historical setting. Prerequisite: Music 204 or consent of instructor. (Freedman; not offered in 1989-90)

**222b. Baroque Music** An examination of the music of the Baroque period emphasizing study of techniques and styles, performance practice and historical setting. Prerequisite: Music 203 or consent of instructor. (Freedman; not offered in 1989-90)

**223a. Classical Music** An examination of the music of the classical period emphasizing study of techniques and styles, performance practice, and historical setting. Prerequisite: Music 203 or consent of instructor. (Freedman)

**224b. Romantic Music** An examination of the music of the Romantic period emphasizing study of techniques and styles, performance practice, and historical setting. Prerequisite: Music 203 or consent of instructor. (Freedman)

**480a, f, b, i. Independent Study** Prerequisite: consent of instructor. (Staff)

Bryn Mawr offers the following courses in music:

**201. Romantic Music**

**202. The Music of Debussy**

**207. Musical Criticism**

**302. Medieval and Early Renaissance Music**



303. Late Renaissance and Baroque Music

307. Opera and Music Drama

309. Bibliography and Research

## PHILOSOPHY

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*Professors:*

George L. Kline, Ph.D., *Milton C. Nahm Professor*

Michael Krausz, Ph.D.

George E. Weaver, Jr., Ph.D.

*Associate Professor:*

Robert J. Dostal, Ph.D., *Chairman*

**Affiliated Faculty**

Stephen G. Salkever, Ph.D., *Professor of Political Science*

The Department of Philosophy prepares its students in a number of ways. The undergraduate major prepares students for graduate level study of philosophy in which they work toward becoming professionals in the discipline as teachers and researchers. Undergraduate instruction also introduces students to some of the most compelling answers that have been given to questions arising from thoughtful reflection on human existence and grooms students for a wide variety of fields which require analysis, conceptual precision, and clarity of thought and expression. These include the law, social services, business, computer science, health professions, and the arts.

The curriculum focuses on three major areas: (1) the systematic areas of logic, theory of knowledge, metaphysics, ethics, and aesthetics; (2) the history of philosophy through study of key philosophers and philosophic periods; and (3) the philosophical explication of methods in such domains as science, religion, art, and history.

The department is a member of the Greater Philadelphia Philosophy Consortium, which sponsors the Conferences on the Philosophy of the Human Studies; the Consortial Visiting Professor; the Public Issues Forum; monthly Working Group

meetings; and other philosophical programs. Participating in the Consortium along with Bryn Mawr are Drexel University, Haverford College, LaSalle University, Pennsylvania State University, Rosemont College, St. Joseph's University, Swarthmore College, Temple University, University of Pennsylvania, and Villanova University. Undergraduate students can take advantage of cross-registration arrangements with Haverford College, Swarthmore College, and the University of Pennsylvania.

Philosophy courses are divided into four divisions and three levels. 100-level courses are introductory, 200-level courses are intermediate, and 300-level courses are advanced. Core courses are intended to provide students with a common background in philosophical problems, concepts, and argumentation. These courses are designated by a zero (0) in the second digit of the three-digit course number. Philosophy 101 and 201 are required for the major.

Theory of knowledge and metaphysics is concerned with what sorts of things exist, with what we know, and with how we know. These courses are marked by a one in the middle digit.

Value theory courses are concerned with the nature of evaluative concepts such as goodness and beauty and the justification for claims involving these concepts. These courses are designated by a two in the middle digit. Philosophy 221: Ethics is required for the major.

Persons and periods courses focus on significant individual thinkers and traditions in the history of philosophy. Courses are designated by a three in the middle digit.

In addition, many students take courses in political science and English, which provide major credit in philosophy. These are: Political Science 209: Western Political Theory: Ancient and Modern; Political Science 231: Western Political Theory: Modern; Political Science 311: Theory and Practice in Political Philosophy; Political Science 320: Problems in Greek Political Philosophy; Political Science 327: Political Philosophy in the Twentieth Century; and English 389: Philosophies of Literature.

Each student majoring in philosophy must take a minimum of nine semester courses and the Senior Conference (398). Of the nine courses one must be from each of the four philosophy divisions. The core division requirement must be met by taking Greek Philosophy 101 and Modern Philosophy 201, or the History of Western Philosophy 101a and b, at Haverford. The values division requirement must be met by

taking Ethics 221. Majors may choose any course in the theory of knowledge and metaphysics and the persons and periods division to fulfill those requirements. In addition, at least three courses must be at the advanced level. A student may satisfy a philosophy division requirement by taking an advanced course; for example, Philosophy 333: Russian Philosophy satisfies simultaneously both the persons and periods division requirement and part of the advanced course requirement.

Bryn Mawr's department cooperates extensively with the department at Haverford, enabling the major to experience a wide variety of approaches to philosophy as well as additional course offerings. Haverford courses may satisfy Bryn Mawr requirements, but a student should check with the chairman of the department to make sure a specific course meets a requirement. Students may also enroll in selected courses at Swarthmore College.

Philosophy majors are encouraged to supplement their philosophical interests by taking advantage of courses offered in related fields, such as literature, languages, history, psychology, and mathematics.

Departmental honors may be earned by preparing an honors paper. Students interested in submitting an honors paper proposal should consult with the instructor with whom they wish to work and with the department chairman.

A student may minor in philosophy by taking six courses in the discipline at any level.

No introductory-level course carries a prerequisite. However, all courses on both the intermediate and advanced levels carry prerequisites. Unless stated otherwise in the course description, any introductory course satisfies the prerequisite for an intermediate-level course, and any intermediate course satisfies the prerequisite for an advanced-level course.

**101. Introduction to Philosophy: Greek Philosophy** The origins and development of Greek philosophy, including the pre-Socratics, Plato, and Aristotle. (Dostal, Kline, Division III)

**102. Introduction to Problems of Philosophy** Several sections of this course are offered; they differ in focus:

**Philosophy Through Literature** An exploration of key philosophic themes exhibited in certain major works of imaginative literature. Topics include self-knowledge and

self-deception; normalcy and madness; the use and abuse of language; choice, responsibility, and freedom; the clash of duties; time, history, and the existing individual. (Kline, Division III)

**Twentieth-century Analytic and Speculative Philosophy** A close study of texts in both analytic and speculative philosophy of the twentieth century. Topics include the mind-body problem, the "problem of other minds," the status of ethical and metaphysical propositions, explanation in history, the problem of causality, freedom and determinism, authenticity and "bad faith," the relation of philosophy to science and to religion. Philosophers studied include Moore, Russell, Wittgenstein, Hempel, Carnap, Ryle, Austin, Strawson, Whitehead, Ortega, and Sartre. (Kline, Division III)

**Foundations of Knowledge** Contemporary formulations of certain philosophical problems are examined, such as the nature of knowledge, persons, freedom and determinism, the grounds of rationality, cognitive and moral relativism, and creativity in both science and art. (Krausz, Division III)

**103. Logic** Training in reading and writing proof discourses (i.e., those segments of writing or speech which express deductive reasoning) to gain insight into the nature of logic, the relationship between logic and linguistics, and the place of logic in the theory of knowledge. (Weaver, Division III)

**201. Introduction to Philosophy: Modern Philosophy** The development of philosophic thought from Descartes to Nietzsche. (Dostal, Kline, Krausz, Division III)

**203. Formal Semantics** A study of the adequacy of first order logic as a component of a theory of linguistic analysis. Grammatical, semantic, and proof theoretic inadequacies of first order logics are examined and various ways of enriching these logics to provide more adequate theories are developed, with special attention to various types of linguistic presuppositions, analyticity, selection restrictions, the question-answer relation, ambiguity, and paraphrase. Prerequisite: Philosophy 103. (Weaver, Division III)

**210. Philosophy of Social Science: Philosophy and Cross-cultural Understanding** An examination of the relation between the philosophical theory of relativism and the methodological problems of cross-cultural investigation.



Selected anthropological theories of culture are evaluated in terms of their methodological and philosophical assumptions with attention to questions of empathetic understanding, explanation, evidence, and rational assessment. (Krausz and Kilbride, Division I; cross listed as Anthropology 210)

**211. Theory of Knowledge** An examination of the relation between cultural relativism and cognitive relativism. Comparisons are made with absolutist and foundationalist strategies. Topics include the nature of truth, conceptual schemes, and argumentation. (Krausz, Division III)

**213. Introduction to Mathematical Logic** Equational logics and the equational theories of algebra are used as an introduction to mathematical logic. While the basics of the grammar and deductive systems of these logics are covered, the primary focus is their semantics or model theory. Particular attention is given to those ideas and results which anticipate developments in classical first order model theory. Prerequisite: Philosophy 103 or Mathematics 101 and 102. (Weaver, Division II or Quantitative Skills)

**214. Modal Logic** A study of normal sentential modal logics. Topics include Kripke semantics, Makinson constructions, and back and forth arguments. Prerequisite: Philosophy 103. (Weaver, Division II or Quantitative Skills)

**215. Introduction to Set Theory: Cardinals and Ordinals** Study of the theory of cardinal and ordinal numbers in the context of Gödel-Bernays-von Neumann set theory. Topics include equivalents of the axiom of choice and basic results in infinite combinatorics. Prerequisite: Philosophy 103 or Mathematics 101 and 102. (Weaver, Division II or Quantitative Skills)

**218. Foundations of Mathematics** The construction of the basic number systems (positive integers, integers, rationals, and reals) and the axiomatic development of their theories from a modern "abstract" perspective. Emphasis is given to those ideas, methods, and presuppositions implicit in these developments. Prerequisite: Philosophy 103, 213, or 215, or Mathematics 101. (Weaver, Division II or Quantitative Skills)

**221. Ethics** A close study of classical and contemporary texts, with attention to such problems as the nature of moral

conflict, freedom, responsibility, obligation, and decision. (Kline, Dostal, Division III)

**222. Aesthetics** An examination of aesthetic experience, the ontology of art objects, the nature of artistic interpretation, and the concept of creativity. (Krausz, Division III)

**232. Aristotle** An introduction to Aristotle, stressing the relationships between Aristotelian metaphysics and natural science. Prerequisite: Philosophy 101; Philosophy 201 strongly recommended. (Dostal, Salkever, Division III)

**233. Taoism: The Religion and the Philosophy** (Nylan, Division III)

**236. Plato: Early and Middle Dialogues** A close study of several Platonic dialogues chosen from among the following: *Apology, Crito, Euthyphro, Meno, Gorgias, Phaedo, Phaedrus, Symposium*. Emphasis on the character of Socrates, the nature of Socratic inquiry, and the relationship between such inquiry and political life. Some familiarity with the *Republic* is presupposed. (Dostal, Salkever, Division III; cross listed as Political Science 236)

**238. Science, Technology, and the Good Life** A study of science, its relationship to the good life, and the relationship of technology to both science and the good life, in the ancient, modern, and contemporary periods. Primary readings from Aristotle, Galileo, and Husserl. In the context of the modern period the question of the relevance of the human sciences to these questions about science are addressed. Supplementary readings from the modern and contemporary period include Descartes, Hobbes, Newton, Boyle, Habermas, Arendt, Taylor, and MacIntyre. (Dostal, Division III)

**241. Philosophy, Culture, and Technology** An examination of technology as a cultural form from a philosophical point of view, including the situation of technology in representative theories of culture. Topics include the aims and values of technological "progress," technology in relation to human needs and wants, the autonomy of technology, and technology and the concept of a person. (Krausz, Division III)

**242. Theory of Recursion** An introduction to the theory of recursion understood as the study of "effective" language

processing, (i.e., as the study of those processes involving symbol manipulation which can be carried out in a purely mechanical or formal fashion). The central concepts of recursion (enumerability, decidability, computability, and solvability) are defined in terms of the notion of elementary formal systems. Topics include abstract forms of the incompleteness and undecidability results of Church, Gödel, Tarski, and Rosser; recursive function theory; Turing-Post machines; diagonalization, Gödel sentences, and Gödel numbering. Prerequisite: Philosophy 103, Mathematics 101, or discrete mathematics. (Weaver, Division II or Quantitative Skills)

**293. The Play of Interpretation** Intended for students in the humanities and social sciences, the course explores the processes and ends of interpretation, surveys common problems, and seeks common frameworks and approaches to texts. An examination of factors central to interpretation, such as conceptions of text, author, and reader, is followed by consideration of the role of description, metaphor, and writing, as well as such concepts as structure and history, and concludes with a study of the models offered by hermeneutics, structuralism, and poststructuralism. (Staff, Division III; cross listed as English 293)

**310. Philosophy of Science** An examination of positivistic science and its critics. Topics include the possibility and nature of scientific progress from relativistic perspectives. (Krausz)

**312. Philosophy of History** An examination of representative analytic and speculative philosophies of history. Topics include the nature of historical explanation, the relativist/absolutist controversy, holism and individualism, and historical interpretation. (Krausz)

**315. Concepts of Time** Questions discussed include: Is the past "closed"? Is the future "open"? Is the before-after relation reducible to that of "past-present-future"? Readings from both classical and contemporary authors. (Kline)

**316. Philosophy of Mathematics** Epistemological problems, particularly in reference to mathematical realism, are examined and various solutions are discussed, with emphasis on "structuralist" solutions arising out of modern abstract algebra. Prerequisite: Philosophy 103 or 213. (Weaver)

- 317. Philosophy of Creativity** A systematic examination of theories of creativity in the arts and sciences. (Krausz)
- 318. Philosophy of Language** Tarski's attempt to formulate scientific semantics as an axiomatic theory and to define various semantic concepts (e.g., designation, truth, and logical consequence) within that theory. This work is compared with the more recent attempts to provide a model theoretic semantics for parts of natural language. Prerequisite: Philosophy 103. (Weaver)
- 323. Culture and Interpretation** A study of methodological and philosophical issues associated with interpreting alternative cultures, including whether ethnocentrism is inevitable, whether alternative cultures are found or imputed, whether interpretation is invariably circular or relativistic, and what counts as a good reason for one cultural interpretation over another. Prerequisite: a 200-level course in philosophy or anthropology or consent of instructor. (Krausz)
- 330. Kant** An examination of central themes of Kant's critical philosophy. (Dostal)
- 331. Hegel** A close study of the major themes of the *Phenomenology of Spirit* with some attention to the anti-Hegelian "existentialist" response of Kierkegaard's *Concluding Unscientific Postscript*. (Kline, Dostal)
- 333. Russian Philosophy** A critical survey of major trends in Russian thought from the eighteenth to the mid-twentieth centuries, with special attention to ethics, social philosophy, the philosophy of religion, and the philosophy of history. (Kline)
- 334. Marx and Russian Marxism** An intensive study of selected works of Marx, Engels, Plekhanov, and Lenin and a critical survey of contemporary Soviet Marxism-Leninism, with special attention to the question of whether Marx is a philosophical materialist. (Kline)
- 336. Plato: Later Dialogues** An examination of several so-called "late" dialogues, primarily *Theatetus*, *Sophist*, *Statesman*, and *Philebus*. Special attention is given to the literary character of the dialogues, with thematic focus on the relationship between the method of collection and division, dialogic inquiry, and Aristotelian modes of explanation; and



on the Platonic images of the philosopher and the political leader. Prerequisites: Political Science 209 and 231 or Philosophy 101 and 201. (Dostal, Salkever; cross listed as Political Science 336)

**337. The Philosophies of Schopenhauer, Marx, and Nietzsche** A close study of the principal philosophical writings of three nineteenth-century thinkers, viewed in the perspective of their individual responses to the Hegelian system. (Kline)

**339. Nineteenth-century Philosophy** A critical examination of such questions as: the role of individuals and of institutions in historical development (Hegel); the subjectivity and faith of the existing individual (Kierkegaard); the shaping of cultural values and ideals by an elite of exceptionally creative individuals (Nietzsche). A general question, answered in contrasting ways by these three key thinkers, is whether the orientation of philosophers of history and historical agents should be toward the (world-historical) past or the future. (Kline)

**398. Senior Conference** A seminar designed to involve all senior majors, all first-year graduate students, and all faculty members in the reading of a major contemporary work. (Dostal, Kline, Krausz)

Haverford College offers the following courses in philosophy:

**101. Historical Introduction to Philosophy**

**107. Logic**

**202. Plato**

**203. Aristotle**

**205. Hellenistic and Roman Philosophy**

**208. Hinduism**

**209. Buddhism**

**210. Jewish Philosophy and Theology**

**221. Early Modern Continental Philosophy**

- 222. **Early Modern British Philosophy**
- 226. **Nineteenth-century Philosophy**
- 227. **Nietzsche**
- 228. **Analytic Philosophy**
- 229. **Wittgenstein**
- 230. **Twentieth-century Continental Philosophy**
- 232. **American Philosophy**
- 234. **African-American Philosophy**
- 235. **African Philosophy**
- 252. **Philosophy of Logic and Language**
- 254. **Aesthetics**
- 256. **Metaphysics and Epistemology**
- 266. **Critical Theory of Society**
- 268. **Social and Political Philosophy**
- 270. **Philosophy of Science**
- 302. **Kant**
- 303. **Hegel**
- 304. **Topics in Ancient Philosophy**
- 305. **Topics in Early Modern Philosophy**
- 306. **Topics in Nineteenth-century Philosophy**
- 307. **Topics in Recent Anglo-American Philosophy**
- 308. **Topics in Recent Continental Philosophy**
- 309. **Topics in Logic and Ontology**

- 310. Topics in Ethics
- 311. Topics in Aesthetics and Philosophy of Literature
- 312. Topics in Social and Political Philosophy
- 313. Contemporary Philosophical Problems
- 314. Topics in Non-Western Philosophy
- 315. Topics in Epistemology and Philosophy of Language

## PHYSICS

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*Professors:*

Neal B. Abraham, Ph.D., *Rachel C. Hale Professor in the Sciences and Mathematics*

Alfonso M. Albano, Ph.D., *Marion Reilly Professor and Chairman*

Peter A. Beckmann, Ph.D.

*Visiting Research Professor:*

Robert S. Gioggia, Ph.D.

*Visiting Scholar:*

Pierre Glorieux, Ph.D.

*Lecturer:*

David Chyba, Ph.D.

*Laboratory Supervisor:*

Mary E. Scott, M.A.

The courses in physics emphasize the concepts and techniques that have led to our present state of understanding of the physical universe; they are designed to relate the individual parts of physics to the whole rather than to treat them as separate disciplines. In the advanced courses the student applies these concepts and techniques to increasingly independent studies of physical phenomena. Opportunities exist for interdisciplinary work, for participation by qualified majors in research with members of the faculty, and for

training in instrument making, glass blowing, computer programming and interfacing, and electronics.

It is possible for a student who takes Physics 103, 104 and Mathematics 101, 102 in the sophomore year to major in physics. However, it is advisable for a freshman considering a physics major to take Physics 103, 104 and Mathematics 101, 102 in the freshman year. Freshman are strongly encouraged to seek to place out of Physics 103, 104 and/or Mathematics 101, 102 if they have had reasonably strong advanced placement courses in high school. Advanced placement and credit is given for a score of 4 or 5 on the AP tests. Alternatively, students may take the departmental advanced placement examinations just prior to, or during, the first week of classes.

It is strongly recommended that students considering graduate work in physics, materials science, engineering, or related fields supplement the major requirements with additional courses in physics, mathematics, or chemistry. In consultation with appropriate faculty members, students may design independent majors in, for instance, mathematical physics or chemical physics.

Requirements for the major are: eight physics courses and two mathematics courses beyond the introductory sequences. The required physics courses are 203, 204, and 301 and five other courses at the 300 level or above in physics at Bryn Mawr or at Haverford, or in astronomy at Haverford, or in other science departments by permission of the department. With consent of the department, appropriate Haverford physics courses may be substituted for several of the required courses. The required mathematics courses beyond 101, 102, are 202, 203 or 204 or their Haverford equivalents. Physics majors are strongly urged to take at least two courses in chemistry.

Requirements for the minor beyond the introductory sequence are: Physics 203, 204, 301, and one additional 300-level course approved by the department or appropriate equivalent Haverford physics courses.

The A.B. degree may be awarded with honors in physics. The award is based on the quality of original research done by the student and described in a senior thesis presented to the department and the achievement of a minimum grade point average in physics of 3.4 and an overall grade point average of 3.0, both calculated at the end of the senior year.

*The Three-Two Plan in Engineering and Applied Science:* The College has arrangements with the California Institute of Technology and with the University of Pennsylvania whereby a student interested in engineering and recommended by Bryn



Mawr may, after completing three years of work at the College, transfer into the third year of the engineering and applied science option at the Institute or into one of the schools of engineering at the University of Pennsylvania, to complete two full years of work there. At the end of five years she is awarded a Bachelor of Arts degree by Bryn Mawr and a Bachelor of Science degree by the California Institute of Technology or by the University of Pennsylvania. The three-two plan with the University of Pennsylvania offers somewhat more flexibility because of the University's proximity to Bryn Mawr.

In her three years at Bryn Mawr, the student must complete the composition, divisional, and foreign language requirements, as well as the prescribed science program and the basis for a Bryn Mawr major (probably, though not necessarily, in mathematics or physics). Interested students are encouraged to write the appropriate department prior to their arrival at Bryn Mawr, since the conditions placed on the three years at Bryn Mawr are very strict. Students interested in chemical engineering should write the Department of Chemistry and students interested in all other branches of engineering (mechanical, electrical, civil, aeronautical, etc.) should write the Department of Physics. Students considering this option should consult their dean at the time of registration in the freshman year.

**101. Fundamentals of Physics I** An introductory survey of physics covering classical mechanics (kinematics and dynamics), special relativity, statistical mechanics, nonlinear dynamics, gravitations, and rotational motion. This course is calculus-based (though there is no calculus co- or pre-requisite) with emphasis on the problem solving and physical insight, the unification of physical laws, and the discoveries of the last two hundred years that have shaped current attitudes and theories in physics. Lecture three hours, recitation one hour, laboratory three hours a week. Recommended for juniors, seniors, post-baccalaureate and other special students; freshmen and sophomores are advised to take Physics 103. (Division III or Quantitative Skills)

**102. Fundamentals of Physics II** A calculus-based course on electromagnetism (statics, dynamics, Maxwell's equations, circuits), mechanical and electromagnetic waves (interference, diffraction, physical and geometrical optics), and special topics in "modern physics." Lecture three hours, recitation one hour, laboratory three hours a week. Prerequisite: Physics 101 or consent of instructor. Recommended for juniors,

seniors, post-baccalaureate and other special students; freshmen and sophomores are advised to take Physics 104. (Division III or Quantitative Skills)

**103. Introductory Physics I** For description, see Physics 101. Enrollment limited to freshmen and sophomores. (Division III or Quantitative Skills)

**104. Introductory Physics II** For description, see Physics 102. Enrollment limited to freshmen and sophomores. (Division III or Quantitative Skills)

**203. Classical and Relativistic Mechanics** Newtonian Mechanics of single particles, systems of particles, rigid bodies, and continuous media with applications. One-dimensional systems including forced and nonlinear oscillators and scattering and orbit problems. The special theory of relativity applied to both kinematics and dynamics. Lecture three hours, laboratory in electricity, electronics, and electronic devices four hours a week. Prerequisites: Physics 103, 104 and Mathematics 201 or Haverford Mathematics 213 or 215. (Division III)

**204. Electromagnetism and Physical Optics** Electrostatics; electric currents and magnetic fields; electromagnetic induction; Maxwell's equations, electromagnetic waves, and elements of physical optics including principles of diffraction, interference, and coherence. Scalar and vector fields and vector calculus are introduced and developed as needed. Lecture three hours, laboratory in mechanics and physical optics four hours a week. Prerequisites: Physics 103, 104 and Mathematics 202 or Haverford Mathematics 214 or 216. (Division III)

**301. Elementary Quantum Mechanics** Quantum description of physical phenomena. Origins of quantum theory; Schrödinger's equation and wave mechanics; observables, operators, state vectors, and measurement theory; uncertainty and complementarity; one-dimensional problems; angular momentum; the one-electron atom. Lecture three hours a week. Co-requisites: Physics 203. With consent of instructor, students not majoring in physics may be allowed to waive the physics co-requisite.

**302. Quantum Mechanics and Applications** An introduction to the formal structure of quantum mechanics; measurement

theory; spin angular momentum; the exclusion principle; vector model of the atom; perturbation theory, transition rates and selection rules; Hartree theory and multielectron atoms; molecular bonding; electronic, vibrational, and rotational spectroscopy; the role of symmetry in quantum mechanics. Lecture three hours a week. Prerequisite: Physics 301 or Haverford Physics 214.

**303. Statistical and Thermal Physics** Statistical description of the states of classical and quantum systems; conditions for equilibrium; statistical basis of thermodynamic concepts and the Laws of Thermodynamics; microcanonical, canonical, and grand canonical ensembles and applications; Fermi-Dirac, Bose-Einstein, and Maxwell-Boltzmann statistics with applications to solid state physics, low temperature physics, atomic and molecular physics, and electromagnetic waves; classical thermodynamics with applications to gases. Lecture three hours a week. Co-requisite: Physics 301 or Haverford Physics 214. (Offered at Haverford as Physics 314 in 1989-90)

**304. Advanced Topics in Physics** Two half-semester courses both chosen from the list given below. Three lectures a week. Pre- or co-requisite: a 300-level physics course or, with consent of instructor, advanced work in chemistry, astronomy, or mathematics. (not offered in 1989-90)

**Solid State Physics** Crystallography, crystal diffraction, crystal binding, lattice vibrations, metals, band theory, and semiconductor theory.

**Nuclear Physics** Nuclear properties; alpha, beta, and gamma decay; nuclear forces; nuclear reactions and scattering; nuclear models.

**Particle Physics** Properties and classification of elementary particles, strong and weak interactions, conservation laws and symmetry, gauge theories, and quark model.

**Plasma Physics** Properties of plasmas, dynamics of charged particles in electromagnetic fields, nuclear fusion devices.

**Special Relativity** Fundamental postulates, Lorentz transformations, particle kinematics and dynamics.

**General Relativity** Geometry of space-time and Einstein's field equations, cosmology and cosmogeny.

**305. Advanced Electronics** Survey of electronic principles and circuits useful to the experimental physicist. Topics include feedback and operational amplifiers with extensive applications, servo systems, noise and small signal detection, analog to digital conversion, microcomputer interfacing. Laboratory eight hours a week. Prerequisites: Physics 203 or Haverford Physics 115.

**306. Mathematical Physics** This course is equivalent to Mathematics 306, although the material covered may be slightly different. Complex variables; coordinate transformations; tensors; Fourier series; Laplace and Fourier transforms; Sturm-Liouville problems; expansions in series of eigenfunctions; boundary-value problems. Lecture three hours a week. Prerequisite: Mathematics 202 or Haverford Mathematics 214 or 216 (Cross listed as Mathematics 306)

**307. Solid State Physics** Crystal structure and diffraction; the reciprocal lattice and Brillouin zones; crystal binding; lattice vibrations and normal modes; phonon dispersion, Einstein and Debye models for the specific heat; free electrons and the Fermi surface; electrons in periodic structures, the Bloch theorem; band structure; semiclassical electron dynamics; semiconductors; magnetic and optical properties of solids; superconductivity; defects in solids. Lecture three hours a week. Pre- or co-requisite: a 300-level physics course or, with consent of instructor, advanced work in chemistry, astronomy, or mathematics. (Offered at Haverford as Physics 322 in 1989-90)

**308. Advanced Classical Mechanics** Kinematics and dynamics of particles and macroscopic systems, including the use of configuration and phase space, normal mode analysis of oscillations, descriptions of the motions of rigid and elastic bodies. Mathematical methods are introduced as needed. Lecture three hours a week. Pre- or co-requisite: a 300-level physics course or, with consent of instructor, advanced work in chemistry, astronomy, or mathematics.

**309. Advanced Electromagnetic Theory** Electrostatics; dielectrics; electric currents; magnetism; magnetic materials; Maxwell's equations; electromagnetic waves; classical and relativistic electrodynamics; special topics such as superconductivity, plasma physics, and radiation. Mathematical methods are introduced as needed. Lecture three hours a week. Pre- or co-requisite: a 300-level physics course or,



with consent of instructor, advanced work in chemistry, astronomy, or mathematics. (Offered at Haverford as Physics 309 in 1989-90)

**331. Modern Physics Laboratory** Set-piece experiments as well as directed experimental projects to study selected phenomena in atomic, molecular, nuclear, and solid state physics. These experiments and projects serve as an introduction to the contemporary instrumentation and the precision measurement techniques used in physics research laboratories. Laboratory eight hours a week. Co-requisite: Physics 301 or Haverford Physics 214.

**390. Supervised Units of Work in Special Topics** Subject to faculty time and interest, juniors and seniors may supplement their work with independent study or laboratory work in a special area of physics. Faculty-student research is not included here (see 403). Rather, this is intended to fill gaps in undergraduate material or to appeal to special interests which lie outside faculty research interests.

**403. Supervised Units of Research** At the discretion of the department juniors and seniors may supplement their work with research in one of the faculty research groups. At the discretion of the research supervisor a written paper may be required at the end of the semester or year. Among the available topics for supervised units are:

**Laser Physics** Investigations of output characteristic of high-gain gas lasers mode structure, intensity fluctuations, pulsing phenomena, and effects of anomalous dispersion. Studies of the properties of amplified spontaneous emission: intensity fluctuations and spectral widths. Single photon-electron counting to measure coherence properties of the electromagnetic radiation field. (Abraham)

**Statistical Physics and Nonlinear Dynamics** Theoretical and computational work on nonlinear dynamical systems. Chaotic phenomena in lasers and neural networks. (Albano)

**Condensed Matter Physics** Research in chemical physics, molecular physics, and solid state physics. Experimental, theoretical, and computational studies are conducted with the goal of understanding molecular motions in a variety of molecular solids. The main experimental techniques are mass spectroscopy, gas-liquid chromatography, infrared

spectroscopy, x-ray diffraction, ultraviolet spectroscopy, and differential scanning calorimetry. (Beckmann)

Haverford College offers the following courses in physics. A Haverford course and its Bryn Mawr equivalent (indicated in parentheses) may not both be taken for credit.

**100. Survey of Classical and Modern Physics** (not for major credit; does not satisfy the laboratory science requirement (Division IIL) at Bryn Mawr)

**105. Introduction to Physics and Astronomy** (101)

**115. Fundamentals of Physics II** (102)

**214. Introductory Quantum Mechanics** (301)

**308. Advanced Classical Mechanics** (308)

**309. Electrodynamics and Modern Optics** (309)

**311. General Relativity and High Energy Astrophysics**

**313. Particle Physics**

**314. Statistical Physics** (303)

**316. Electronic Instrumentation and Laboratory Computers** (305)

**318. Advanced Quantum Mechanics** (302)

**322. Solid State Physics** (307)

**326. Advanced Physics Laboratory**

**412. Research in Theoretical Physics**

**415. Research in Experimental Condensed Matter Physics**

**417. Condensed Matter Physics**

## POLITICAL SCIENCE

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### The Caroline McCormick Slade Department of Political Science

#### *Professors:*

Marc Howard Ross, Ph.D., *Chairman* (on leave, 1989-90)  
Stephen G. Salkever, Ph.D., *Acting Chairman*

#### *Assistant Professors:*

Michael H. Allen, Ph.D., *on the Rosalyn R. Schwartz Lecture-  
ship* (on leave, 1989-90)  
Carol Hager, Ph.D.

#### *Assistant Professor of Chinese Culture and History and Political Science:*

Michael Nylan, Ph.D. (on leave, 1989-90)

#### *Lecturers:*

Joyce Miller, J.D., *Director of Minority Affairs*  
Seravin Mendez-Mendez, Ph.D., *Postdoctoral Scholar on the  
Minority-in-Residence Program*

#### *Instructors:*

Neil Berch, M.A.  
Deepa Ollapally, M.A.

The major in political science aims at developing the reading, writing, and thinking skills necessary for a critical understanding of the political world. Through their course work students examine political life in a variety of contexts from the small scale neighborhood to the international system asking questions about the different ways in which humans have addressed the organization of society, the management of conflicts, or the exercise of power and authority.

The major consists of a minimum of ten courses. Two of these must be taken at the introductory level (201-209 at Bryn Mawr or the 100 level at Haverford). The major must include work done in two distinct areas of concentration. A minimum of three courses must be taken in each area of concentration, and at least one course in each area must be at the 300 level. One course is a senior conference (Political Science 398 or one of the Haverford 390 series) to be taken in the first semester of the senior year; another is the senior thesis

(Political Science 399), to be written in the second semester of the senior year.

Areas of concentration are not fixed in advance, but are set by consultation between the student and the departmental advisers. The most common areas of concentration have been comparative politics, international politics, American politics, and political philosophy, but concentrations have also been established in Hispanic studies, political psychology, women and politics, Soviet studies, international economics, and American history, among others.

Up to three courses from departments other than political science may be offered for major credit, if in the judgment of the department these courses are an integral part of the student's major plan. This may occur in two ways: (1) an entire area of concentration may be drawn from courses in a related department (such as economics or history); or (2) courses taken in related departments will count toward the major if they are closely linked with work the student has done in political science. Ordinarily, 100-level or other introductory courses taken in related departments may not be used for major credit in political science.

Students who have done distinguished work in their courses in the major and who write outstanding senior theses will be considered by the department for departmental honors.

All Haverford political science courses count toward the Bryn Mawr major; courses in related departments at Haverford which are offered for political science major credit will be considered in the same way as similar courses taken at Bryn Mawr. Senior conferences (an average of five a year) are offered at both Bryn Mawr and Haverford. Advisers for the senior thesis may be chosen from among the Haverford as well as the Bryn Mawr faculty.

**201. American Politics** An introduction to empirical social science concepts and methods in general and to those in political science in particular; organized around the study of two major political processes in the United States: the structure and influence of public opinion and public policy formation. (Berch, Division I)

**202. Comparative Politics: Western Democracies** The major theories of comparative politics applied to selected cases. Addresses the question of how political scientists compare nations by examining approaches such as systems analysis, structuralism and behavioralism, as well as critiques



of these methods through a consideration of party systems, political culture, and governmental institutions. (Division I; not offered in 1989-90)

**205. Government and Politics in Western Europe** An analysis of the changing relationship between state and society in selected western European countries, focusing on the historical context of state-society relations, the rise and fall of the "post-war settlement" between labor and capital, and the emergence of new sources of political conflict in the 1970s and 1980s. (Hager, Division I)

**206. Conflict and Conflict Management: A Cross-cultural Approach** A study of how and why societies throughout the world differ in terms of the level of internal and external conflict and methods of settling disputes. Explanations for conflict in and among traditional societies are considered as ways of understanding political conflict and dispute settlement in the United States and other contemporary settings. (Mulvill, Division I; cross listed as Anthropology 206)

**208. Introduction to International Politics** An introduction to international relations, exploring its main subdivisions and theoretical approaches. Phenomena and problems in world politics examined include systems of power-management, imperialism, war, and cold war. Problems and institutions of international economy and international law are also addressed. This course assumes a reasonable knowledge of modern world history. (Ollapally, Division I)

**209. Western Political Philosophy (Ancient and Early Modern)** An introduction to the fundamental problems of political philosophy, especially the relationship between political life and the human good or goods. Readings from Plato, Aristotle, Machiavelli, Hobbes, and Rousseau. (Salkever, Division III)

**219. The Chinese Village** The history of the Chinese village from the 1898 reform movement to the present. Topics include various movements, such as Rural Reconstruction and the Great Leap Forward, the changing role of women in China, the place of religion in twentieth-century China, and the role of Western capitalism in the development of the Chinese economy. (Nylan, Division I; not offered in 1989-90)

**220. American Constitutional Law** An introduction to American constitutional law, organized around three questions: What is the constitution? Who interprets the constitution? How should the constitution be interpreted? Major fundamental rights and equal protection cases are examined and the roles of Congress, the courts and the executive branch in shaping these rights are considered. (Staff, Division I)

**230. Politics and the Novel: Uneasy Allies in Modern China** An examination of the relationship between modern political thinkers and leading writers of the twentieth century. Topics include the question of art for art's sake, the relationship of propaganda and art, modern art and the slavish imitation of Western models, including Soviet realism, the relationship of the major political issues in Republican and Communist China and art, and the modern role of the writer compared to the traditional role assigned in imperial China. (Nylan; not offered in 1989-90)

**231. Western Political Philosophy (Modern)** A continuation of Political Science 209, although 209 is not a prerequisite. Particular attention is given to the various ways in which the concept of freedom is used in explaining political life. Readings from Locke, Hegel, J.S. Mill, Marx, and Nietzsche. (Salkever, Division I)

**236. Plato: Early and Middle Dialogues** A close study of several Platonic dialogues chosen from among the following: *Apology*, *Crito*, *Euthyphro*, *Meno*, *Gorgias*, *Phaedo*, *Phaedrus*, *Symposium*. Emphasis on the character of Socrates, the nature of Socratic inquiry, and the relationship between such inquiry and political life. Some familiarity with the *Republic* is presupposed. (Salkever, Dostal, Division III; cross listed as Philosophy 236)

**241. The Politics of International Law and Institutions** An introduction to international law, which assumes a working knowledge of modern world history and politics since the second World War. The origins of modern international legal norms in philosophy and political necessity are explored, showing the schools of thought to which the understanding of these origins give rise. Significant cases are used to illustrate various principles and problems. Prerequisite: Political Science 208. (Allen, Division I; not offered in 1989-90)

**243. Political Economy of International Relations** A study of the economic and political aspects of international relations. Contemporary theories of international political economy are studied and applied to topics such as international trade, aid, and monetary affairs; international finance; and multi-national corporations and Third World debt, development, and dependence. (Ollapally, Division I)

**251. Mass Media and the Political Process** A consideration of the mass media as a pervasive fact of political life in the U.S. and how they influence American politics. Topics include how the media have altered American political institutions and campaigns, how selective attention to particular issues and exclusion of others shape public concerns, and the conditions under which the media directly influence the content of political beliefs and the behavior of citizens. (Ross, Division I; not offered in 1989-90)

**260. Political Culture of Chinese-Americans** An account of the political experience of Chinese-Americans up to the present. Topics include the exclusion act against Chinese immigration, unfair labor practices aimed at Chinese workers, the organization of the New York and San Francisco Chinatowns, and present difficulties surrounding the assimilation of Chinese-Americans into the elite culture. (Nylan, Division I; not offered in 1989-90)

**265. Research Methods in Political Science** A study of basic research methods in political science, including research design, hypothesis testing, measurement, base study and quantitative analysis; with emphasis on the proper use of each method, how to choose the appropriate method for a project, and critiques of different methodological perspectives. (Berch)

**285. Early China: Material, Social, and Philosophical Cultures** The development of early China from the Shang-Yin dynasty (ca. 1600 B.C.) to the beginning of the Northern Sung period (A.D. 960-1126), emphasizing artistic, philosophical, and economic changes. Archaeological evidence and primary source materials used to sketch the outline of daily life, as well as the pattern of elite culture. (Nylan, Division I; cross listed as History 285; not offered in 1989-90)

**293. Myth and Ritual in Ancient China** An examination of a variety of myths and rituals of imperial China in order to understand early Chinese beliefs concerning gender relations, the political process, the origins of culture, and cosmic and individual self-realization and "renewal." (Nylan; not offered in 1989-90)

**295. Political Legitimacy in China** A study of basic theories of political legitimacy in China from antiquity to the present, intended for students with some background in either Chinese history or political systems. Topics include early Chinese theories concerning the foundation of the state and the role of the ruler, the cosmological foundations of imperial Chinese rule, the Neo-Confucianism revision of ideas, the Reform period thinkers' response to the West, early socialist thinking, and new calls for Chinese democracy. (Nylan; not offered in 1989-90)

**307. Religion and Politics** An examination of how and why religion and politics are frequently intertwined; how religion often provides an effective basis for political mobilization; and how religious symbolism and religious appeals serve the needs of political leaders and political movements. The development of a theoretical perspective is followed by an analysis of particular cases ranging from the contemporary United States to the Middle East, Northern Ireland, West Africa, and Iran. (Ross; not offered in 1989-90)

**310. Selected Topics in Comparative Politics** (Not offered in 1989-90)

**311. Theory and Practice in Political Philosophy** A consideration of the relationship between ways of understanding the world and ways of understanding human action. Typical alternative modes of linking theoretical and practical assertions are studied through the works of Nietzsche, Hume, and Aristotle. Prerequisites: Political Science 209 and 231 or Philosophy 101 and 201. (Salkever; not offered in 1989-90)

**313. U.S. Soviet Relations in the Post-War Era** An analysis of the evolution of superpower relations from World War II to the present, emphasizing the causes and consequences of the cold war, the emergence and breakdown of detente, the new Soviet thinking under Gorbachev and American responses. Other topics include the development of national security



doctrines, the arms race, competition in the third world, and the role of ideology. (Ollapally)

**316. Ethnic Group Politics** An analysis of ethnic and racial group cooperation and conflict in a variety of cultural contexts. Particular attention is paid to processes of group identification and definition, the politicization of race and ethnic identity, and various patterns of accommodation and conflict among groups. (Ross)

**326. Feminist Theory** An analysis of the conceptual foundations of various explanations of gender differences and of women's experience of social and political oppression, and a consideration of the influence of feminist thought on philosophy and political theory. (not offered in 1989-90)

**327. Political Philosophy in the Twentieth Century** A study of twentieth-century extensions of three traditions in Western political philosophy: the adherents of the German and English ideas of freedom and founders of classical naturalism. Authors read include Hannah Arendt, Jurgen Habermas, John Rawls, Alasdair MacIntyre, Leo Strauss, and Iris Murdoch. Topics include the relationship of individual rationality and political authority, the "crisis of modernity," the relationship between political philosophy and modern science. Prerequisites: Political Science 311. (Salkever)

**336. Plato: Later Dialogues** An examination of several so-called "late" dialogues, primarily *Theatetus*, *Sophist*, *Statesman*, and *Philebus*. Special attention is given to the literary character of the dialogues, with thematic focus on the relationship between the method of collection and division, dialogic inquiry, and Aristotelian modes of explanation; and on the Platonic images of the philosopher and the political leader. Prerequisites: Political Science 209 and 231 or Philosophy 101 and 201. (Salkever, Dostal; cross listed as Philosophy 336)

**343. Liberation, Development, and Foreign Policy: Problems and Cases** A seminar on the processes of decolonization, nation-building, and development/underdevelopment primarily as seen through the eyes of Third World theorists, activists, and statespersons. Critical examination of concepts purporting to explain the political sociology of colonialism, resistance to and emergence from it. Class conflict, ethnic

conflict, leadership, and democracy are examined with special reference to African, Caribbean, and Asian experiences. Prerequisite: Political Science 208; Sociology 102 is recommended. (Allen; not offered in 1989-90)

**361. Contemporary Soviet Politics: Continuity and Change**

An examination of the major institutions of the Soviet political system within the framework of comparative political analysis, with emphasis on the changes in this system proposed by Gorbachev. (Hahn)

**395. Origins of Political Philosophy: China and Greece** A consideration of two cases of the emergence of critical and self-reflective public discourse and of the subsequent problem of the relationship between philosophy and political life.

Readings from Confucius, Mencius, Chuang tzu, Hsun tzu, the pre-Socratics, Plato, Aristotle, Thucydides. (Nylan and Salkever; not offered in 1989-90)

**398. Political Science Senior Conference** Each senior major must take one section of the Senior Conference (or Political Science 391, 393, 394, or 396) during the fall semester. Students may take more than one conference and/or research seminar. The conferences are intended primarily for senior majors, but are open to others with the consent of instructor.

**Environmental Politics** A comparative analysis of the politics of environment. Topics include the rise of environment as a political issue in capitalist and non-capitalist political systems; forms and impact of citizen participation; institutional, cultural and economic influences and politics. (Hager)

**American Political Economy** A study of various aspects of the relationship of government and the economy, focusing on the United States but also including works that compare the U.S. to other western countries. (Berch)

**399. Senior Thesis** (Staff)

Haverford College offers the following courses in political science:

**121. American Political Institutions**

- 131. **Comparative Government and Politics**
- 132. **Comparative Politics of the Third World**
- 141. **Introduction to International Politics**
- 223. **American Political Problems: The Congress**
- 224. **American Political Problems: The Presidency**
- 233. **Politics and Society in Contemporary India**
- 235. **Comparative Political Development**
- 236. **African Politics**
- 238. **Latin American Politics**
- 245. **International Political Systems**
- 246. **International Organization**
- 248. **Nuclear Weapons and Arms Control**
- 255. **American Democratic Theory and Practice**
- 256. **Contemporary Political Theory**
- 257. **Theories of Liberation: Feminist Political Theory**
- 266. **American Studies to the Civil War**
- 268. **American Political Theory after the Civil War**
- 326. **Topics in American Politics**
- 335. **Topics in Development Theory and Practice**
- 346. **Topics in International Politics**
- 356. **Topics in Modern Political Theory**
- 391. **Research Seminar in American Politics**
- 392. **Research and Writing on Political Problems**

393. Research Seminar in International Politics

394. Research Seminar in Comparative Politics

396. Research Seminar in Political Theory

## PSYCHOLOGY

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*Professors:*

Richard C. Gonzalez, Ph.D., *Class of 1897 Professor*

Howard S. Hoffman, Ph.D.

Clark R. McCauley, Jr., Ph.D.

Earl Thomas, Ph.D., *Acting Chairman Semester II, 1989-90*

(on leave, Semester I, 1989-90)

Matthew Yarczower, Ph.D., *Chairman* (on leave, Semester II, 1989-90)

*Professor of Biology and Psychology:*

Margaret A. Hollyday, Ph.D.

*Lecturer:*

Erika Rossman Behrend, Ph.D.

*Laboratory Coordinator:*

Robert T. Weathersby, M.A.

The department offers the student a major program which allows choices of courses from among a wide variety of fields in psychology: clinical, cognitive, comparative, developmental, experimental, personality, physiological, and social. In addition to the considerable breadth offered, the program encourages the student to focus on more specialized areas through advanced course work, seminars, and especially through supervised research. Students have found that the major program provides a strong foundation for graduate work in experimental, physiological, social, developmental, cognitive, and clinical psychology.

It is hoped that an interdepartmental concentration in neural and behavioral sciences will be available in the Fall semester to students majoring in either biology or psychology. The concentration will be administered by an interdepartmental committee. Students will have to satisfy require-



ments both of the major and of the concentration. The latter will require that students take courses outside their major department. Further details about the proposed concentration may be obtained from Paul Grobstein, professor of biology, or from Earl Thomas, professor of psychology.

Requirements in the major subject are Psychology 101, 102, or its equivalent, and 205, Experimental Methods and Statistics; eight additional courses, at least four of which must be selected from the following 200-level courses: Learning Theory and Behavior, Comparative Psychology, Sensation and Perception, Developmental Psychology, Language and Cognition, Social Psychology, Theories of Personality, Physiological Psychology and at least three of which must be selected from the following 300-level courses: Emotion, Nervous System: Structure and Function, Psychological Testing, Current Developments in Psychology, Abnormal Psychology, Developmental Cognitive Disorders, Comparative Psychology of Learning, Psychopharmacology, Laboratory Methods in Brain and Behavioral Sciences, Cognitive Issues in Personality and Social Psychology, and Advanced Topics in Learning. With permission of the department, two semesters of supervised research may be substituted for one 300-level course.

Psychology 101, 102 (or their equivalent) are prerequisites for all 200-level courses, with the exception of 205. Some second semester courses at the 200 level may, with permission of the department, be taken concurrently with Psychology 102. All courses at the 300 level have 200-level prerequisites (listed below after the description of each 300-level course). Students who have taken an introductory course in psychology elsewhere are not required to take Psychology 101, 102. They may be required to obtain laboratory experience in other courses in their major program. Courses at other institutions, or in another Bryn Mawr department, may be credited toward the major with the consent of the department.

Departmental honors (called honors in research in psychology) are awarded on the merits of a report of research (the design and execution, the significance of the results, and the scholarship exhibited in the writing of a paper based on the research). Faculty who supervise student research submit to the faculty of the department any student's research paper judged worthy of consideration for honors in research. Honors are awarded if a majority of the faculty votes in favor of honors.

**101, 102. Experimental Psychology** A survey of methods, facts, and principles relating to basic psychological processes, their evolution, development, and neurophysiology. Neurobiology, sensory processes, motivation, emotion, and instinctive behavior; learning and memory; perception, cognition, and language development; personality and social psychology. Lecture three hours, laboratory four hours a week. The laboratory provides experience with contemporary methods of research on both animals and humans. (Staff, Division IIL)

**104. Principles of Behavior Modification** An examination of the assumptions, theories, data, and ethical issues concerning the attempts at behavior modification in educational, medical, psychiatric, and penal institutions. Topics include anxiety and depression, eating disorders, sexual dysfunction, sexual pathology, addictive behavior, autistic behavior, obsessive-compulsive disorders, self-control, countercontrol, ethics of control. Students administer a behavior modification program as part of the course. (Yarczower, Division I; not offered in 1989-90)

**105. The Psychology of Visual Art: Sensory Processes in Painting and Drawing** A study of how one sees and the relevance of this information to the visual arts, organized around two texts; one a scholarly, up-to-date account of the human visual system and how it processes and transforms sensory input, the other an informed discussion of how visual inputs are transformed and interpreted in the course of executing a drawing. A number of drawing exercises designed to sharpen the capacity to observe detail and organization in the visual world are used to illustrate the key functions of the visual system. (Hoffman, Division I; not offered in 1989-90)

**201. Learning Theory and Behavior** A systematic analysis, in historical perspective, of the major conceptions of the nature of animal intelligence and the data bearing on them, with emphasis on cognitive processes and their evolution. Provides the foundation for further study of intelligence and behavior, particularly as treated in courses on human learning and memory, language and cognition, comparative psychology, and physiological psychology. Three lectures, five hours of laboratory each week. (Gonzalez, Division IIL)

**202. Comparative Psychology: Evolution and Behavior** Human social behavior treated in comparative perspective. Current literature dealing with evolutionary concepts is

considered and applied to analyses of aggression, altruism, attachment, sexual behavior, language, and emotional expression. (Yarczower, Division I)

**204. Sensation and Perception** A systematic examination of how sensory signals are detected, analyzed, and transformed in the course of their perception. Examples in the domains of human vision and audition illustrate modern analytical approaches to the perception of color, form, and distance, and to the perception of acoustical events, such as speech and music. Individual projects examine one or more current problems in these areas. (Hoffman, Division II)

**205. Experimental Methods and Statistics** An examination of statistical factors in research design and in the analysis and interpretation of quantitative data. Topics include descriptive measures, the assessment of association, the logic of statistical inference, and the analysis of variance. (Hoffman, Division I or Quantitative Skills)

**206. Developmental Psychology** A topical survey of psychological development from infancy through adolescence, focusing on the interaction of organismic and environmental factors in the ontogeny of perception, language, cognition, and social interactions within the family and with peers. (Wozniak, Division I; cross listed as Human Development 206)

**207. Language and Cognition** A survey of major issues and findings in the study of human mental representation. Information processing and approaches to the encoding, retention, and retrieval of mental representations; followed by a consideration of the psychology of language, music, and the perception of speech. (Stark, Division I)

**208. Social Psychology** A survey of theories and data in the study of human social behavior. Special attention to methodological issues of general importance in the conduct and evaluation of research with human subjects. Topics include group dynamics (conformity, leadership, encounter groups, crowd behavior); attitude change (consistency theories, attitudes and behavior, mass media persuasion); person perception (stereotyping, attribution theory, implicit personality theory); altruism and helping behavior; crowding and urban behavior. Participation in a research project is required. (McCauley, Division I)

**210. Theories of Personality** A survey of psychoanalytical, interpersonal, humanistic, and existential theories of human nature and human motivation, focusing primarily on specific theories of Freud, Erikson, Jung, Horney, Rogers, and May, and supplemented by pertinent experimental findings. (Lamb, Division I; cross listed as Human Development 210)

**218. Physiological Psychology** An interdisciplinary course on the neurobiological bases of experience and behavior, emphasizing the contribution of the various neurosciences to the understanding of basic problems of psychology. An introduction to the fundamentals of neuroanatomy, neurophysiology, and neurochemistry, with an emphasis upon synaptic transmission; followed by the application of these principles to an analysis of sensory processes and perception, emotion, motivation, learning, and cognition. The laboratory provides experience in either animal or human experimentation in the neurosciences. Lecture three hours, laboratory four hours a week. Prerequisite: Psychology 201 or consent of instructor. (Thomas, Division IIL)

**301. Emotion** A study of the evolution, development, communication, neuropsychology, and dysfunction of emotional processes. Questions addressed include: What is emotion and how is it measured? If I raise my brows, pull them together, raise my upper eyelids, and stretch my lips horizontally back towards my ears, then will my skin temperature be lowered? Will I also feel fear? Is an infant capable of experiencing anger, disgust? Which cues do you believe indicate deception, which cues do you use to detect it, and which cues in fact reflect deception? Are the answers the same? Why do we not frown when we feel happy and smile when we feel disgust? Prerequisite: Psychology 201, 202, 206, or 208. (Yarczower; not offered in 1989-90)

**304. Nervous System: Structure and Function** A comprehensive introduction to the structure and function of the nervous system. Basic cellular processes, mechanisms of interaction between cells, and principles of organization of the complex assemblies of cells displayed in the vertebrate brain are considered in lectures and laboratory exercises. The latter also provides an introduction to neurophysiological and neuroanatomical methods. Lecture three hours, laboratory four hours a week. Prerequisites: Biology 101, 102, 202, and Chemistry 103, 104. (Grobstein, Hollyday; cross listed as Biology 304)



**305. Psychological Testing** Principles of measurement relevant to both experimental and individual-differences psychology, and their application in examination of a variety of psychological tests including intelligence tests (WAIS, WISC, Stanford-Binet, Raven and Cattell "culture-fair" tests); aptitude tests (SAT, GRE); and personality tests (MMPI, Rorschach), with the goal of evaluating tests for either research or practical selection problems. Topics include intelligence versus creativity testing, hereditary versus environmental determinants of I.Q., trait versus situational determinants of behavior. Participation in a research project is required. Prerequisite: Psychology 205. (McCauley)

**306. Current Developments in Psychology** A study of articles in the current literature that seem destined to have a direct and broadly based impact on the field, selected from the College's collection of current psychology journals as well as recent listings in the *Psychological Abstracts*. All students read each article selected and prepare comments for subsequent classroom discussions which focus on evaluating the essential contribution of the work and assessing its potential impact on the field. Prerequisite: Psychology 205. (Hoffman)

**309. Abnormal Psychology** An examination of the main psychological disorders manifested by individuals across the life span. Historical overview followed by a review of the major models of psychopathy, including the medical, the psychodynamic, the behavioral, the cognitive, the family systems, and the humanistic. Disorders covered include autism, anorexia/bulimia, anxiety disorders, psychophysiological disorders, substance abuse, depression, schizophrenia, and Alzheimer's disease. Issues of classification, theories of etiology, research on prognosis, and studies of treatment are discussed. Prerequisite: Psychology 210. (cross listed as Human Development 309)

**350. Developmental Cognitive Disorders** A survey of language disorders, mental retardation, perceptual and reading disability/dyslexia, attentional deficits, memory problems, and other forms of learning disability in children and adolescents, utilizing a developmental and neuropsychological framework to study the various cognitive disorders within the context of the normal development of perception, attention, memory, language, mathematical concepts, and reading. Research on the assessment, classification, outcome, and

remediation of the major cognitive disorders manifested by children and adolescents are also covered. Prerequisites: Psychology 206 or 207 (Lamb)

**393. The Comparative Psychology of Learning** The comparative analysis of learning in vertebrates including fish, amphibians, reptiles, birds, and mammals, emphasizing the relation between the evolution of the brain and the evolution of intelligence. Prerequisites: Psychology 201 and 218. (Gonzalez; not offered in 1989-90)

**395. Psychopharmacology** A study of the role of drugs in understanding basic brain-behavior relations. Topics include the pharmacological basis of motivation and emotion, pharmacological models of psychopathology, the use of drugs in the treatment of psychiatric disorders, such as anxiety, depression, and psychosis, and the psychology and pharmacology of drug addiction. Prerequisites: Psychology 201 and 218. (Leitner)

**397. Laboratory Methods in the Brain and Behavior Sciences** The use of the computer as a laboratory instrument in the acquisition and processing of behavioral and neuroelectric data. An introduction to the elements of electronics necessary for understanding both neuronal functioning and the instruments which measure neuronal functioning is followed by a consideration of the microcomputer, its architecture, programming including elementary assembly language programming, and interfacing to laboratory instruments. The laboratory introduces several important preparations currently used in correlating behavioral and neural events and the methods of data analysis. Prerequisite: Psychology 218. (Thomas)

**398. Cognitive Issues in Personality and Social Psychology** An examination of research in cognitive psychology (including frequency encoding, categorization, object perception, and information processing heuristics) in relation to research in social perception (including stereotyping, attribution, impressions of personality, and the cross-situational consistency of behavior). Prerequisites: Psychology 205 and 208. (McCauley)

**399. Advanced Topics in Learning** Reading and discussion of the primary literature of contemporary significance in animal learning, with special attention to emerging empirical and

theoretical developments and to biological and comparative analyses of learning. Prerequisite: Psychology 201. (Gonzalez)

**403. Supervised Research in Psychology** Laboratory or field research on a wide variety of topics. Students should consult with faculty members in the second semester of their junior year in order to determine their topic and faculty supervisor. (Staff)

Students should consult with the chairman at Bryn Mawr in order to determine which Haverford courses count towards the major at Bryn Mawr.

## RELIGION

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### At Haverford College

*Associate Professor:*  
Richard Luman, Ph.D.

*Assistant Professors:*  
Anne M. McGuire, Ph.D., *Chairman*  
Michael A. Sells, Ph.D.  
David Dawson, Ph.D.  
Elaine Beretz, Ph.D.  
E. Ann Matter, Ph.D.

*Margaret Gest Visiting Professor:*  
Azim Nanji

The Department of Religion seeks to involve the student in both reflective and critical study of religious texts and traditions in their historical, institutional, and cultural contexts and in their philosophical, theological, and hermeneutical implications. The department emphasizes the reading of texts, understood as any artifacts which require careful, systematic, and disciplined ways of "reading," along with those tools and skills necessary to that task, especially a command of language in both its lexical and cultural senses.

The exact structure of the student's program must be determined in consultation with the major adviser, whom the

student chooses in consultation with the chairman from among the regular members of the department. The program must include Religion 110a, Religion 111b, and 399b, and seven additional half-year courses. Introductory courses (100 level) will not fulfill this requirement. Three courses must be distributed as follows: each religion major must take at least one course in each of three of the following areas which the department offers: (1) religions of antiquity and Biblical literature; (2) history of Christianity/Medieval-Reformation; (3) comparative religion; and (4) modern religious thought. Other advanced courses to complete the seven-course requirement may be taken in either the Haverford Department of Religion or the Bryn Mawr Department of History of Religion.

Where necessary for the major program, two courses—with permission of the department—may be upper-level courses in related departments (including foreign languages). The department requires a minimum of six courses in residence for the major; students studying abroad should plan their programs so as to meet this requirement by consulting in advance with the department and by keeping the department adequately informed during their absences. In some rare cases, exceptions may be granted by petition (presented in advance) to the department.

Final evaluation of the major program will consist of written work and an oral examination during the senior year in the context of the Senior Seminar, Religion 399b. Where necessary for the major program, the department strongly urges the study of appropriate languages.

Honors in religion are awarded on the basis of work in the Senior Seminar, Religion 399b, and in courses in the department.

**110a. Sacred Texts and Religious Traditions** Using texts from a wide range of world religions, the course introduces issues of reading and interpretation, the relation of text to community and culture, critical and comparative methods of study. Readings may include selections from Biblical literature, the Qur'an, the *Bhagavad Gita*, and other Asian and African texts. (McGuire, Sells)

**111b. Religious Life and Thought: Augustine to the Present** Through an examination of classics of Jewish and Christian thought since late antiquity, the course introduces the analysis of theological texts; the varieties of religious expression, thought, and experience; the history of traditions; the origins



and impact of modernity on believing communities. Readings may include works of Augustine, Anselm, Maimonides, Aquinas, Luther, Teresa of Avila, Spinoza, Schleiermacher, Marx, Kierkegaard, Buber, Cone, Gutierrez, or others. (Luman, Dawson)

## RELIGIONS OF ANTIQUITY AND BIBLICAL LITERATURES

**205a. New Testament History and Literature** The history, literature, and theology of earliest Christianity in its social setting, from the ministry of Jesus through the end of the New Testament period. (McGuire)

**206b. Varieties of Christianity** The history, literature, and theology of Christianity from the end of the New Testament period to the rise of imperial Christianity under Constantine. (McGuire)

**213a. Christianity and Classical Culture** The relation between Christianity and classical culture in the first three centuries, with special attention to the role of Greco-Roman philosophy, religion, and society in the development of Christianity. (Beretz)

**215a. The Letters of Paul** A study of the thirteen letters attributed to the Apostle Paul and the place of Paul in the development of early Christianity. (McGuire; not offered in 1989-90)

**216b. Jesus and the Gospels** The Gospels of Matthew, Mark, Luke, and John critically examined and interpreted, with special attention to the development of traditions about Jesus and the literary and theological contributions of the Evangelists. (McGuire)

**221a. Women in Early Christianity** The images and roles of women in early Christianity and their implications for contemporary Christianity. Interpretations of Genesis 1-3, images of women and sexuality in early Christian literature, the roles of women in various Christian communities. (McGuire; not offered in 1989-90)

**222a. Gnosticism** An investigation of the phenomenon of Gnosticism through close reading of primary sources, includ-

ing the recently discovered texts of Nag Hammadi. Topics include the relation of Gnosticism to Greek, Jewish, and Christian thought; the Gnostic challenge to authority; the variety of Gnostic schools and sects. (McGuire; not offered in 1989-90)

**224a. Readings in Early Christian Literature** Exegetical and literary study of selected writings from the first three centuries of Christianity. Readings may include Revelation, Ignatius, Justin, Nag Hammadi texts, other apocryphal and patristic writings. (Mcguire; not offered in 1989-90)

### **HISTORY OF CHRISTIANITY/MEDIEVAL-REFORMATION**

**225a. The Christian Revolution, 250-800** The history of Christian thought and institutions from the third century through the eighth, with emphasis on the massive changes in both Church and Empire following upon Imperial recognition, and then the collapse of Roman order; and the great theological controversies concerning the Trinity and the nature of Christ. Readings in Eusebius, Athanasius, Augustine, and other original materials. (Luman; not offered in 1989-90)

**226b. Building the Christian Community, 800-1300** The birth of Europe, the conversion of Europe, the inception of and carrying through of the idea of a Christian commonwealth, leading to papal dominance, Benedictine reform, intellectual renewal, and the beginnings of challenge and decay. Readings in original sources. (Luman; not offered in 1989-90)

**227a. Crisis and Reform I, 1300-1550** A study of the development of the late medieval church from Boniface VIII to the Lutheran Reformation. Readings in Luther, Marsilius of Padua, and other original sources. (Luman)

**228b. Crisis and Reform II, 1517-1648** A further study of the Protestant and Catholic reforms, down to the Peace of Westphalia. Readings from Calvin, Zwingli, the "Left-Wing" ("Radical") reform, the Anglicans, and Roman Catholics such as Loyola. (Luman)

**231a. Christian and Non-Christian, 100-1700** The medieval and Reformation missionary enterprise from the conversion

of the Roman world and Gregory the Great's mission to Britain to the occupation of the New World, considering methods (evangelism, Crusade, monasticism) and legal and theological reflection on the enterprise and on the status of both the non-believer and the convert. Consideration of Islam, pagan religions, non-Roman forms of Christianity. (Luman; not offered in 1989-90)

**232a. Icelandic Sagas** Literary and religious dimensions, pagan and Christian, of thirteenth-century Icelandic sagas. Original texts, such as *Njal's Saga*, and appropriate critical literature. (Luman)

**237b. Life and Theology of Martin Luther** A study of the biography and major theological works of Martin Luther (1483-1546), with emphasis on the relation of his thought to ancient and medieval antecedents, the major controversies and statements of his mature life, and the relation of his thought to that expressed in the Lutheran confessions. (Luman; not offered in 1989-90)

**240b. History and Principles of Quakerism** A study of the Quaker movement in relation to other intellectual and religious movements of its time and in relation to problems of social reform. The development of dominant Quaker concepts is traced to the present day and critically examined. Intended for non-Friends as well as Friends. Open to freshmen with consent of instructor. (Bronner)

## COMPARATIVE RELIGION

**251a. Islam** The development of Islam from the time of Muhammad to the present day, with special attention to the interaction between the various aspects of Islamic cultures: Credal Islam, Arabic philosophy, scholastic theology (*kalam*), Shi'ism, Sufism, and the world view of the poets; modern Islamic society viewed through contemporary Islamic novels and essays. (Nanji)

**252b. Religions of the East** The classical texts of Hindu, Buddhist, Taoist, and Confucian thought: the Upanishads, the *Bhagavad Gita*, the *Dhammapada*, the *Vimalakirti Sutra*, Lao Tzu, Chuang Tzu, the *Analects*, the *Platform Sutra*. (Sells)

**255a. Anthropology of Religion** Contemporary ethnographic work in the field of religion related to the most important theoretical contributions; symbolism, ritual process, comparative definition of religion. Not open to freshmen. (MacGaffey)

**262a. Islamic Literature and Civilization** Islam refracted through its diverse cultural expressions (poetic, Sufi, shar'ia, novelistic, architectural) and through its geographic and ethnic diversity (from Morocco to Indonesia, focusing on Arab and Persian cultures). (Sells)

**263a. The Arabian Ode** Masterworks of classical Arabic poetry, in translation, with emphasis on the pre-Islamic period, with emphasis on poetic value and form, mythic and symbolic resonance, interaction and tension between the poetry and the Quranic revelation, and the poetry's role in the genesis of Arabic and Islamic civilization. (Sells)

**269b. Cultural Identity in Third World Literature** The encounter of traditional religious and cultural values with the modern West as reflected in non-Western novels, short stories, poetry, and folk tales. (Sells)

## MODERN RELIGIOUS THOUGHT

**277a. Religion in the Age of Reason** An investigation of religion in seventeenth- and eighteenth-century England, America, France, and Germany, highlighting the impact of modernity on traditional religious life and thought and the relationships between modes of interpreting scripture, the exercise of human reason, and ways of understanding the human capacity for moral knowledge and action. Readings may include Bunyan, Locke, Hume, Pascal, Spinoza, Rousseau, Kant, Moses Mendelssohn. (Dawson)

**278b. Nineteenth Century Religious Thought** An investigation of religious thought and its philosophical and historical critics in nineteenth-century Europe, focusing on the changing relationships of conceptions of God, human nature, and biblical interpretation, going beyond the methodology of traditional "history of ideas" toward greater awareness of the social and historical contexts of religious and theological discourse. Readings may include Schleiermacher, Hegel,



Feuerbach, Strauss, Marx, Coleridge, Newman, Nietzsche, Kierkegaard. (Dawson)

**279a. Contemporary Religious Thought** An exploration, through careful reading and discussion of primary texts, of several prominent concerns of twentieth-century Jewish and Christian religious thought and theology, including faith and the understanding of human nature, literary and theological responses to the Holocaust, the impact of Marxism and feminism on Christian theology, and current debates about methods of thinking theologically. Readings may include Tillich, Buber, Camus, Wiesel, Cohen, West, Reuther, Tracy. (Dawson; not offered in 1989-90)

**284b. The Allegorical Imagination** An exploration of allegory as a recurring literary, philosophical, and religious phenomenon in Western literature and culture through close analysis and discussion of a wide range of texts both secular and sacred. Topics include the nature and function of allegory as both a mode of reading and a method of literary composition, with special attention to its role in biblical interpretation and its relation to biblical typology. Readings may include Plato, the Stoics, Philo, Origen, Augustine, Prudentius, Dante, Bunyan, Goethe, Coleridge, Emerson, Auerbach, Bloom, De Man. (Dawson)

**285a. Religion and the Hermeneutics of Suspicion** An examination through close reading and discussion of the common roots of Romantic religion and modern hermeneutics in Schleiermacher and Coleridge and the subsequent reinterpretation of the "true" but masked essence of religion in Feuerbach, Marx, Nietzsche, and Freud, concluding with a brief consideration of some hermeneutical and anti-hermeneutical perspectives in contemporary literary theory and religious thought. (Dawson; not offered in 1989-90)

**286a. Religion and Morality** An examination of the works of one or more major ethical thinkers, or an exploration of a specific set of problems in ethics and religion, principally concerned with the relations between religious thought and moral practice. Readings may include classical thinkers such as Augustine or Aquinas as well as contemporary figures such as MacIntyre, Hauerwas, or Stout. (Dawson; not offered in 1989-90)

**290a. Feminist Critique of the Christian Theological Tradition** A survey of recent writings by authors who can loosely be called "feminist" on the role and images of women in Christianity, from Biblical interpretation to post-Christian spirituality. Authors may include Reuther, Tribble, and Daly. (Matter)

## SEMINARS

**343a, b. Seminar in the Religions of Antiquity and Biblical Literature** Advanced study of some period or set of problems in the field. May be repeated for credit with change of content. Prerequisite: Consent of instructor. (McGuire)

**345a, b. Seminar in Western Religious History** Study of a major thinker or movement in Western religious history. May be repeated for credit with change of content. Prerequisite: Consent of instructor. (Luman)

**353a, b. Islamic Philosophy and Theology** Selected topics and figures in Islamic philosophy, scholastic theology (*kalam*), or mystical philosophy. The relation of Islamic philosophy to Greek, Jewish, and Indian thought. Prerequisite: Consent of instructor. (Sells)

**355a, b. Seminar in Myth and Symbol** Modern interpretations of myth and symbol, including those of Jung, Rene Girard, Mircea Eliade, P. Ricoeur, H. Corbin, Gershom Scholem, and Wendy O'Flaherty. The modern theories are discussed in connection with a classical text from one of the Abrahamic religious traditions. (Sells)

**358a, b. Seminar in Comparative Mysticism** Readings in Jewish, Christian, and Islamic mystical thought, with a focus on the *Zohar*, Meister Eckhart, and the Sufi Master Ibn 'Arabi. The texts are a basis for discussions of comparative mysticism and of the relationship of mysticism to modern interpretive and critical theories. (Sells)

**360a, b. Seminar in Modern Religious Thought** An examination of the works of some major religious thinker or theologian, or a major religious or theological issue. May be repeated for credit with change of content. Prerequisite: Consent of instructor. (Dawson)

**399b. Senior Seminar and Thesis** Research and writing of senior thesis. Required of senior majors. (Staff)

**460f, i. Teaching Assistance** One half-course credit per semester for a maximum of one-course credit for supervised teaching and leading small discussion sessions in Religion 110a and 111b when enrollments in those courses warrant their use.

**480a, b. Independent Study** Individual consultation; independent reading and research.

## RUSSIAN

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*Professors:*

Dan E. Davidson, Ph.D.

George S. Pahomov, Ph.D., *Chairman* (on leave, Semester II, 1989-90)

*Associate Professor:*

Anna Ljunggren, Ph.D.

*Assistant Professor:*

Nina M. Baranov, Ph.D.

*Instructor:*

Christine Borowec, M.A.

*Visiting Professor from Herzen or Pushkin Institutes, Soviet Union* (appointment announced annually)

### **Affiliated Faculty**

George L. Kline, Ph.D., *Milton C. Nahm Professor of Philosophy and Acting Chairman Semester II, 1989-90*

### **At Haverford College**

Vladimir Kontorovich, Ph.D., *Assistant Professor of Economics*

Linda G. Gerstein, Ph.D., *Professor of History*

The Russian major is a multi-disciplinary program designed to provide the student with a broadly based understanding of Russian and Soviet literature, thought, and culture with a strong emphasis on the development of functional proficiency in the Russian language. Language study is combined with a specific area of concentration, normally to be selected from among the fields of Russian literature, philosophy, history, or economics, and an allied field (other than that chosen for concentration). Under special circumstances allied or concentration work may be arranged in political science or linguistics as well. The concentration requires a total of four semester units, two at the 200 level and two at the 300 level. The allied field consists of two semester units of work at the 200 level.

The Russian language requirement for the major is defined as a minimum of three years of Russian or the equivalent. In practice, the 200-level advanced Russian courses, successfully completed, represent the level of proficiency required for all majors. Each year a number of Russian majors, especially those who plan to use their language in employment, graduate study, or study in the Soviet Union, enroll in the fourth- and fifth-year-level Russian language courses. Majors are encouraged to take advantage of opportunities for language learning support such as the weekly Russian tables, residence in Batten House (the Russian house), intensive/immersion summer programs offered at Bryn Mawr or elsewhere, and regular academic study in the Soviet Union. Each year Bryn Mawr students compete for positions in the summer semester, and academic-year programs of advanced study at the Pushkin Institute in Moscow.

Senior Conference is required of all Russian majors. It is an interdisciplinary seminar offered in the spring semester each year and represents an occasion for joint inquiry into a subject area which goes beyond any one specific discipline. Some recent topics include the Soviet 1920s, the City of St. Petersburg, and the Era of Alexander the Second. Senior comprehensive examinations cover the area of concentration, the senior conference topic, and Russian language competence, and are administered in late April.

Students with a distinguished record in the major (a grade point average of 3.5 or higher) are encouraged to consider pursuing honors work in Russian. There are no additional set requirements for honors; interested students should consult the chairman late in the junior year.



**001, 002. Elementary Russian** The basic grammar is learned with enough vocabulary to enable the student to speak and understand simple Russian and to read simple texts. Five hours a week. This is a year-long course; both semesters are required for credit. (Staff)

**001, 002. Elementary Intensive Russian** Grammar and vocabulary content similar to non-intensive, but greater emphasis on active control and proficiency development. Nine hours a week including laboratory and computer work. This is a year-long course, both semesters are required for credit. Credit of 1.5 units for each semester is given upon completion of Intensive Russian 002. (Davidson, staff)

**102, 103. Intermediate Russian** Continuing grammar study, conversation, and vocabulary building. Readings in Russian classics and contemporary materials. Five hours a week. (Baranov, staff)

**200, 201. Advanced Training in the Russian Language** Intensive practice in oral self-expression and comprehension based on literary and non-literary sources of modern standard Russian. Conducted in Russian. (Pahomov, staff)

**202, 203. Advanced Reading and Grammar** Study of advanced grammar and the development of reading strategies, using both literary and non-literary texts. May be taken for full or for half credit by students enrolled concurrently in Russian 200, 201 or Russian 305, 306. (Davidson, staff, Division III)

**204, 205. Russian Literature in Translation** A study of Russian literature from its beginning. Readings in representative works in various schools and genres with emphasis on the nineteenth and twentieth centuries. (Pahomov, Borowec, Ljunggren, Division III)

**206. Dostoevsky in Translation** Extensive readings in the varieties of psychological narrative explored by Dostoevsky with emphasis on close study of the major works in their Russian and European contexts. (Pahomov, Division III)

**207. Tolstoy in Translation** Readings of selected fictional and non-fictional works with emphasis on Tolstoy's struggle to adjust experimental and ideological perceptions to reality.

Close analysis of texts and study of Tolstoy's Russian and European background. (Davidson, Division III)

**254, 255. Russian Culture and Civilization in Translation** A history of Russian culture—its ideas, its value and belief systems—from the origins to the present, which integrates the examination of works of literature, art, and music. (Pahomov, Division III)

**277. Nabokov in Translation** A study of Nabokov's "perverse" aesthetics. Topics include the hidden plots under the surface of Nabokov's fiction, the ongoing contest between the author and his writer-heroes, and the roots of Nabokov's poetics in Western and Russian literary traditions. The continuity between the Russian and English works of this bilingual and bicultural writer is also considered. All readings and lectures in English. (Ljunggren, Division III; cross listed as English 277)

**302. Pushkin and His Time** A study of Pushkin's lyric and narrative poetry and prose with emphasis on the innovative nature of Pushkin's experiments with the Romantic tradition. Conducted in Russian. (Ljunggren, Division III)

**303. Twentieth-century Russian Literature** Close readings of Russian poetry from the Symbolists to the present. Conducted in Russian. (Ljunggren, Kline, Division III)

**304. Twentieth-century Russian Literature** Close readings in Russian and Soviet prose from Gorky to the present. Conducted in Russian. (Pahomov, Division III)

**307. Russian Poetry of the Nineteenth Century** A study of selected works of representative writers from Lomonosov to Gogol. Lectures and readings in Russian. (Ljunggren, Borowec, Division III)

**308. Russian Prose of the Nineteenth Century** A study of selected prose writings of major Russian authors of the period. Lectures and readings in Russian. (Pahomov, Borowec, Division III)

**311, 312. Fourth-year Russian: Syntax, Stylistics, and Expression** Intensive practice in reading, writing, and speaking. Advanced training in syntax and stylistics; study of texts of both literary and general cultural interest. (Baranov)

**313, 314. Fifth-year Russian: Syntax, Stylistics, and Expression** Further intensive practice in reading, writing, and speaking. Advanced training in syntax and stylistics; study of texts of both literary and general cultural interest. (Baranov)

**315. Soviet Writers of the Last Thirty Years** A study of Soviet writers of the last three decades, emphasizing the thematic and stylistic diversity which has emerged in contemporary Soviet prose. Authors include Aitmatov, Rasputin, Rybakov, Abramov, Shuksin, Grekova, and Okudzhava. (Baranov)

**398, 399. Senior Conference** The senior conference is intended to supplement course work. Format and topic vary from year to year according to the needs and interests of the students. The work of the conference is evaluated by examination. (Staff)

#### **403. Supervised Work**

The following Bryn Mawr courses are also of interest to Russian majors:

**Economics 206. International Economic Theory and Policy**

**Economics 216. Topics in International Trade and Finance**

**Economics 225. Developing Economies**

**Economics 306. Advanced International Economic Policy**

**Philosophy 333. Russian Philosophy**

**Philosophy 334. Marx and Russian Marxism**

Haverford College offers the following courses of interest to Russian majors:

**Economics 211. The Soviet System**

**History 244. Russian History**

**History 245. Russia in the Twentieth Century**

History 252. Literature in Social Context

History 356. Topics in Russian History

## **SOCIOLOGY**

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*Professor:*

Judith R. Porter, Ph.D., *Chairman* (on leave, Semester II, 1989-90)

*Associate Professors:*

Robert E. Washington, Ph.D., *Acting Chairman Semester II, 1989-90*

*Assistant Professor:*

David Karen, Ph.D.

*Lecturers:*

Mary J. Osirim, M.A.

Seravin Mendez-Mendez, Ph.D., *Postdoctoral Scholar on the Minority Scholar-in-Residence Program*

The major in sociology provides a general understanding of the structure and functioning of modern society, its major institutions, groups, and values, and the interrelations of these with personality and culture. Students examine contemporary social issues and social problems and the sources of stress and change in modern societies. The department offers training in theoretical analysis as well as opportunity for a variety of empirical work and training in research design, statistical analysis, and computer application, and maintains the Social Science Data Library and Statistical Laboratory.

Requirements for the major are Sociology 102, 103, 265, 302, Senior Seminar (398, 399), four additional courses in sociology, and two courses in sociology or an allied subject. Allied courses are chosen from a list provided by the department.

A major in sociology with a concentration in the field of African American studies or in the field of gender and society are also available. Students electing these fields must fulfill the major requirements (102, 103, 265, 302, and 398, 399); the



core course in the special field (211: African American Culture and Community, or 201: The Study of Gender in Society); two 200-level courses in the department, and two additional courses in sociology or an allied field, each offering opportunity for study in the special field; and one additional 200-level course in sociology. The department specifies the allied courses which may be elected in each field. Students should inquire about the possibility of coordinated work with Haverford and Swarthmore Colleges and the University of Pennsylvania.

Honors in sociology is available to those students who have an average in the major of 3.5 or above and who produce a paper in a departmental course during senior year that is judged outstanding by the department. Independent research is encouraged for any major during the senior year. The A.B./M.A. option is available to qualified majors. Graduate seminars are open to majors pursuing the A.B./M.A. option and to other qualified majors by special permission.

Requirements for the minor are Sociology 102, 265, 302, and three additional courses within the department. Minors in the concentrations of African American studies and gender and society are not available.

**102. Society, Culture, and the Individual** Analysis of the basic sociological methods, perspectives, and concepts used in the study of society, with emphasis on culture, social structure, personality, their component parts, and their interrelationship in both traditional and industrial societies. The sources of social tension, order, and change are addressed through study of socialization and personality development, mental illness, delinquency, and modernization. (Porter, Division I)

**103. American Social Structure** Analysis of the structure and dynamics of modern American society. Theoretical and empirical study of statuses and roles, contemporary class relations, the distribution of political power, and racial, ethnic, and gender relations in American life; and stratification in education systems, complex organizations, the labor market, and the modern American family. (Osirim, Division I)

**201. The Study of Gender in Society** The definition of male and female social roles and sociological approaches to the study of gender in America, with attention to gender in the

economy and workplace, the historical origins of the American family, and analysis of class and ethnic differences in gender roles. (Osirim, Division I)

**205. Social Inequality** Introduction to the major sociological theories of gender, racial-ethnic, and class inequality, with emphasis on the relationships among these forms of stratification in the contemporary United States, including the role of the upper class(es), and inequality between and within families, in the workplace, and in the educational system. (Karen, Division I)

**207. The Nature of Prejudice: Intergroup Relations** Cultural, structural, and personality sources of racial and ethnic prejudice; basic theories of prejudice, attitude change, and the response of minority communities illustrated by analysis of racism and anti-semitism in cross-cultural perspective. Topics include comparisons of black-white relations in the United States and South Africa; anti-semitism in the United States and the Soviet Union; the effect of law in racial-ethnic attitudes; sources of change in intergroup relations; and the effect of prejudice on personality, family, and educational processes. (Porter, Division I)

**211. African American Culture and Community** The social development and functioning of the African American community as the embodiment of a unique pattern of experiences in American society. Topics include African heritage, slavery, reconstruction, urbanization, changing family and community organization, the struggle for civil rights, and cultural developments. (Washington, Kilbride, Division I; cross listed as Anthropology 211)

**212. Sociology of Poverty** Analysis of the causes and effects of poverty in the United States. Topics include trends in poverty and the relationship between poverty, the economy, the political system, the family, and educational institutions. The culture of poverty approach and government programs for the poor, including current programs, are analysed. (Porter, Division I)

**217. The Family in Social Context** A comparative study of the family, household, and kinship in the United States, the Caribbean, and West Africa, including the historical roots of these family patterns in the European and African origins of

New World families. Topics include pre-industrial vs. industrial family organization, marital breakdown, changing gender roles, single-parent families, and alternative household structures. (Osirim, Division I)

**218. Modernization: Problems of Development in Third World Societies** Introduction to the issues of modernization through study of the historical patterns of the Western capitalist, the Soviet socialist, and the Japanese communal capitalist patterns of modernization. Topics include theories of modernization; feudal, caste, colonial, and other pre-modern forms of social organization; the problems of mass poverty, urbanization, ethnic conflict, rapid population growth, political instability, and military intervention; the socialist and capitalist alternatives to third world modernization. Empirical illustrations include Afghanistan, Kenya, India, Indonesia, South Africa, and Cuba. (Washington, Division I)

**220. Medical Sociology** Analysis of the development, organization, and effects of health care systems in contemporary United States focusing on manifestations of power within the health care delivery system, social organization of the hospital, and patient-professional interaction. Other topics include definitions of illness, economics of health care, social policy, and international comparisons. (Karen, Division I)

**225. Women in Contemporary Society: Third World Women** A study of the contemporary experiences of women of color in the United States and in the developing world. The household, workplace, community, and the nation-state, and the positions of women in the private and public spheres, are compared cross-culturally. Topics include feminism, identity politics, and self-esteem; and tensions and transitions encountered as nations embark upon development. (Osirim, Division I)

**230. Urban Sociology** Analysis of urban social structures, the theoretical legacies of classical sociological theory and the Chicago school; demographic and ecological characteristics of American cities; ethnic and racial bases; stratification and political structures; crime and problems of social control; comparative analyses of selected third world cities. (Washington, Division I)

**235. The Sociology of Development: Case Studies in Latin America and the Caribbean** An examination of social, economic, and political change in select Latin American and Caribbean societies. Historical and contemporary problems of development including industrialization, the structure of agriculture, employment, and the role of politics and the military in promoting social order/change. Comparative analyses of national development policies and their effects in the indigenous population and the international community are addressed. (Osirim, Division I)

**245. Urban Social Problems** A survey of problems in American society as seen by sociologists and social critics, with emphasis on analytical perspectives for understanding the sources and consequences of American social problems. Topics include crime, poverty, drug addiction, racism, urban crises, sexism, health care, and family disorganization. (Washington, Division I)

**258. Sociology of Education** Major sociological theories of the relationships between education and society focusing on effects of education on inequality in the United States and the historical development of primary, secondary, and post-secondary education in the United States. Other topics include education and social selection, testing and tracking, micro- and macro-explanations of differences in educational outcomes, international comparisons. (Karen, Division I)

**265. Research Design and Statistical Analysis** An introduction to the conduct of empirical, especially quantitative, social science inquiry. Students, in consultation with the instructor, select research problems to which they apply the research procedures and statistical techniques introduced during the course. Using SPSS, a statistical computer package, students learn techniques such as crosstabular analysis, multiple regression-correlations analysis, and factor analysis. (Karen, Division I or Quantitative Skills)

**302. Social Theory** An examination of classical and modern theorists selected on the basis of their continuing influence on contemporary sociological thought. Theorists include Marx, Weber, Durkheim, Mead, Lukacs, Gramsci, Mills. (Washington)

**309. Sociology of Religion** An analysis of the relationship between religion and society, emphasizing the connection



between religious systems and secular culture, social structure, social change, secular values, and personality systems in cross-cultural perspective. The theories of Marx, Weber, Durkheim, and Freud, among others, are applied to analysis of the effect of religion on economic modernization, political nationalism, and social change and stability, and the effect of social class, secular culture, and personality patterns on religion. (Porter)

**330. Comparative Economic Sociology: Advanced and Third World Societies** A comparative study of the production, distribution, and consumption of resources in Western and developing societies from a sociological perspective, including analysis of pre-capitalist economic formations and of the modern world system. Topics include the international division of labor, entrepreneurship, and the role of the modern corporation. Evidence drawn from the United States, Britain, Nigeria, Brazil, and Jamaica. (Osirim)

**340. Political Sociology** An examination of the relationships among power, political participation, and social policy in the United States, emphasizing the origins and consequences of non-electoral forms of participation and their relationship to the adoption of specific social policies. Major theoretical approaches (pluralist, elite, class) to understanding politics are considered. (Karen)

**355. Marginals and Outsiders: The Sociology of Deviance** An examination of the phenomena of powerlessness, loss of meaning, estrangement, and inauthenticity, from the standpoint of various theoretical perspectives on the social conditions giving rise to and resulting from alienation; the manifestations of alienation in deviant behavior and social movements. (Washington)

**398. Senior Seminar: Sociology of Culture** Seminar on theoretical issues in the sociology of culture; required of all senior sociology majors and open to senior social science majors in other departments by consent of instructor. (Washington)

**399. Senior Seminar: The Social Context of Individual Behavior** Microsociological theories such as exchange theory, symbolic interactionism, and ethnomethodology are discussed and contrasted with modern macrosociological traditions. This seminar is required of all senior sociology

majors and open to senior social science majors in other departments by consent of instructor. (Porter)

**403. Independent Study** Students have the opportunity to do individual research projects under the supervision of a faculty member.

Haverford College offers the following courses in sociology. Bryn Mawr majors should consult their department about major credit for courses taken at other institutions.

**155. Foundations of Social Theory**

**180. Theory and Action**

**204. Comparative Race and Ethnic Relations**

**207. Internal Disorder: Deviance and Revolution**

**237. Topics in Historical Sociology**

**251. Sociology of Crime**

**252. Social Change**

**297. Economic Sociology**

**354. Sociology of Knowledge**

## **SPANISH**

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*Professor:*

Willard Fahrenkamp King, Ph.D., *Dorothy Nepper Marshall*  
*Professor of Hispanic and Hispanic-American Studies*

*Associate Professors:*

Concha Alborg, Ph.D., *Katharine E. McBride Visiting Associate Professor*

Enrique Sacerio-Garí, Ph.D., *Chairman*

*Instructor:*

Emile A. Cordeiro, M.A.

The major in Spanish offers a program of study in both the language and the literature of Spain and Spanish America. This program is designed to develop linguistic and critical skills as well as to give the student an appreciation of Hispanic culture and civilization.

The introductory literature courses, 120, 200, 201, and 203 treat a selection of the outstanding works of Spanish and Spanish American literature in various periods and genres. Spanish 204 and 206 are devoted to advanced language training and afford practice in spoken and written Spanish. Spanish 240 considers the historical development of Hispanic and Hispanic American civilization and its enduring values. Advanced literature courses deal intensively with individual authors or periods of special significance.

Students in all courses are encouraged to make use of the language learning center and to supplement their course work by study in Spain or Spanish America either in the summer at the *Centro* in Madrid (see page 81) or during their junior year. Residence in the Spanish House for at least one year is advisable.

Requirements for the Spanish major are a minimum of ten courses: Spanish 200, 201, 203, and an additional 200-level literature course or Spanish 240; three 300-level courses; and the Senior Conference. Unless specifically exempted by the department, all Spanish majors are also required to take Spanish 206. Students whose pre-college training includes advanced work in literature may, with the consent of the department, substitute two courses of more advanced work for Spanish 200 and 201. Majors are advised to take the Hispanic Studies core course, Spanish 240. This major program prepares students appropriately for graduate study in Spanish.

Independent research (Spanish 403, 404) is offered to students recommended by the department. The work consists of independent reading, conferences, and a long paper. Honors may be awarded for especially distinguished work in these courses.

Majors in Spanish may apply for admission into a program of study culminating in the conferral of both an A.B. and an M.A. The details of such a program should be worked out with the chairman of the department in the student's junior year.

Requirements for a minor in Spanish are six courses in Spanish beyond 103, 104, at least one of which must be at the 300 level.

**001, 002. Elementary Spanish** Grammar, composition, oral, and aural training; readings on the Spanish and Spanish American background. This is a year-long course, both semesters are required for credit. One section of this course is intensive and meets nine hours a week. (Sacerio-Garí, Staff)

**101, 102. Intermediate Spanish** Intensive grammar reviews, exercises in composition and conversation, selected readings from modern Spanish. This is a year-long course, both semesters are required for credit. (King, Alborg )

**120. Introduction to Literary Texts** Readings from Spanish and Spanish American works of various periods and genres (drama, poetry, short stories). Special attention to improvement of grammar and oral and written expression. (Sacerio-Garí, Division III)

**200. Hispanic Literature to 1700** A general view of Spanish history and culture as revealed in outstanding literary works from the Middle Ages through the Baroque, with emphasis on oral expression and practice in writing. (King, Division III; offered at Haverford in 1989-90)

**201. Hispanic Literature, 1700 to the Present** Spanish history and culture as revealed in outstanding literary works from the Neo-classical period to the present, with emphasis on oral expression and practice in writing. (King, Division III)

**203. Introduction to Spanish American Literature** A survey of Spanish American literature from the colonial period to modern times. Offered alternately at Bryn Mawr and Haverford. (Sacerio-Garí, Division III)

**204. Advanced Language Training and Conversation** Practice in various modes of oral expression with review of selected points of grammar. Class is divided into small groups for discussions. Readings, reports, short compositions. (Alborg)

**206. Advanced Language Training and Composition** A systematic study of the structure of modern Spanish. Free compositions, creative writing. (Alborg)

**211. Borges and the Reader** Primary emphasis on Borges and his poetics of reading; other writers are considered to illus-



trate the interrelations among texts, society, and tradition. Instruction in English, texts in English translation. (Sacerio-Garí, Division III)

**220. Romanticism and Realism** Poetry and prose from the Romantic revolt to bourgeois realism: Larra, Espronceda, Galdós, Clarín, and others. (Alborg, Division III)

**221. Modernismo and the Generation of 1898** The creation of new styles and new values by José Martí, Rubén Darío, Unamuno, Baroja, and others. (Staff, Division III; not offered in 1989-90)

**225. Contemporary Spanish American Poetry** The revolution in poetic language since the 1920s. Special attention to key figures. (Sacerio-Garí, Division III)

**228. The Mexican Novel since the Revolution of 1910** Novels by Mariano Azuela, Juan Rulfo, Carlos Fuentes, and others whose work reflects the social and political upheavals of revolutionary Mexico. (Staff, Division III; not offered in 1989-90)

**240. Hispanic Culture and Civilization** A brief survey of the political, social, and cultural history of Spain and Spanish America, concentrating on the emergence of specifically Hispanic values and modes of life. Topics include the spread of the Spanish Empire, Spanish American independence, racial and ethnic conflict, current social and economic problems, Spanish America's recent attempts to define its own identity. (King, Division III)

**265. Women Writers, Women Characters in Hispanic Literature** A study of women's voices expressing their aspirations, difficulties, and achievements over five centuries within the special constraints and possibilities offered by Spanish and Spanish American society. Readings from essays, drama, novels, and poetry; authors include Santa Teresa de Avila, Sor Juana Inés de la Cruz, Gabriela Mistral, Federico García Lorca, Eva Perón, and Isabel Allende. (King, Division III; not offered in 1989-90)

**302. Medieval Spanish Literature** The Castilian epic, lyric poetry, and narrative prose from the *Poema del Cid* to Jorge Manrique, with special attention to the intermingling of

Arabic, Jewish, and Christian cultures. (Staff, Division III; not offered in 1989-90)

**303. The Modern Novel in Spain** Twentieth-century experiments in the form and language of fiction. Emphasis on the contemporary period. Texts by Unamuno, Cela, Delibes, J. Goytisolo, C. Martín Gaité, and others. (Alborg, Division III)

**305. Modern Poetry in Spain** Emphasis on the contemporary period; texts by García Lorca, Hierro, Blas de Otero, and others. (Sacerio-Garí, Division III; not offered in 1989-90)

**307. Cervantes** A study of *Don Quijote*, its structural innovations and its synthesis of the conflicting aesthetic and ideological currents of Cervantes' Spain. (King, Division III)

**308. Spanish Drama of the Golden Age** Formal and thematic analysis of four major dramatists of the Spanish national theater: Lope de Vega, Tirso, Alarcón, and Calderón. Reinterpretation and creation of myths, including that of Don Juan. (King, Division III)

**326. Narrative Structure** Study of the elements of narrative in a selection of Spanish and Spanish American texts, with emphasis on the study of parody and satire in the novel. (Sacerio-Garí, Division III; not offered in 1989-90)

**350. El cuento hispanoamericano** The study of short fiction in Spanish America with special attention to the fantastic and the detective tale. Authors include Quiroga, Borges, Carpentier, Rulfo, Cortázar, Valenzuela, and Fuentes. (Sacerio-Garí, Division III; not offered in 1989-90)

**397. Hispanic Studies Senior Conference** Topics are chosen each year after consultation between faculty and students. Students may use this conference to replace one of the senior conferences in the major subject. (King)

**398. Senior Conference** The study of special topics in Hispanic literature chosen by the students in consultation with the faculty, to be evaluated by a written examination in January. (King)

**399. Senior Conference** Individual conferences between students and the instructor to aid the student in the preparation of a long paper. At the end of the semester each student

has a brief oral examination in Spanish consisting of the explanation and interpretation of a text and serving, along with the paper, as the method of evaluation of this conference. With the approval of the department, the student may substitute the Hispanic Studies Senior Conference for the second semester of the Spanish Senior Conference. The student still takes the oral examination outlined above. (King)

**403. Supervised Work** Independent reading, conferences, and a long paper; offered to senior students recommended by the department. Honors may be awarded for especially distinguished work in this course. (Staff)

Haverford College offers the following courses in Spanish:

**315. Novísima Literatura Hispanoamericana**

**335. Spanish Poetry of the Golden Age**

## INTERDEPARTMENTAL WORK

As new fields of study open up and as old fields change, those interested in these fields must acquire information and learn the methods necessary to understand and work in these new and changing fields. In order to provide an opportunity for students to work in these new areas, the faculty has approved the following interdepartmental majors and areas of concentration.

### Interdepartmental Majors

#### CLASSICAL LANGUAGES

*Major Advisers:*

Gregory W. Dickerson, Ph.D., *Professor of Greek*

Russell T. Scott, Ph.D., *Professor of Latin*

The major in classical languages is designed for the student who wishes to divide her time equally between the two languages and literatures.

The requirements for the major are ten courses in Greek and Latin, including at least two at the 200 level in one language and two at the 300 level in the other; two courses in ancient history and/or classical archaeology; and a Senior Conference in either Greek or Latin. There are three final examinations: sight translation from Greek to English, sight translation from Latin to English, and general history and literature of Greece and Rome.

## CLASSICAL STUDIES

### *Major Advisers:*

Gregory W. Dickerson, Ph.D., *Professor of Greek*

Russell R. Scott, Ph.D., *Professor of Latin*

Richard S. Ellis, Ph.D., *Professor of Classical and Near Eastern Archaeology*

The major in classical studies provides a broad yet individually structured background for students whose interest in the ancient classical world is general and who wish to lay the foundation for more specialized work in one or more particular areas.

The requirements for the major are fourteen courses with at least two in each of the following areas: ancient history (History 205, 207, 208, or 221); ancient philosophy (Philosophy 101, 232, or 236); classical archaeology (Classical and Near Eastern Archaeology 101, 102, 205, 206, 209, 301, 302, 305, 306, or 324); Greek (all courses except Greek 215); Latin (all courses except Latin 204). At least two of the courses must be at the 300 level. Equivalent courses may be taken at Haverford with the approval of the major adviser. The final examination in classical studies is on the general field of ancient civilization with emphasis on the individual student's special area of concentration.

## ROMANCE LANGUAGES

### *Major Advisers:*

Grace M. Armstrong, Ph.D., *Associate Professor of French*

Nancy Dersofi, Ph.D., *Professor of Italian*



Willard Fahrenkamp King, Ph.D., *Dorothy Nepper Marshall*  
*Professor of Hispanic and Hispanic-American Studies*

The Departments of French, Italian, and Spanish cooperate in offering a major in Romance languages which requires advanced work in at least two Romance languages and literatures. Additional work in a third language and literature is suggested.

The requirements for the major are a minimum of nine courses, including the Senior Conference described below, in the first language and literature (if Italian is chosen as the first language, only eight courses are required) and six courses in the second language and literature, including the Senior Conference. Students should consult with their advisers no later than their sophomore year in order to select courses in the various departments which complement each other.

The following sequence of courses is recommended when the various languages are chosen for primary and secondary concentration, respectively (see the departmental listings for course descriptions):

**First Language and Literature**

*French*

French 101, 102  
 French 201 or 202

French 203 or 204  
 French 205 or 206  
 French 212 or 260  
 two 300-level courses in literature

*Italian*

Italian 101, 102  
 Italian 201  
 Italian 301  
 Italian 303  
 two literature courses  
 at the 200 or 300 level

**Second Language and Literature**

French 101, 102  
 French 201, 202, 203,  
 204, 205, or 206  
 French 212 or 260  
 one 300-level course in literature

Italian 101, 102  
 Italian 201  
 Italian 301  
 one other literature course  
 at the 200 or 300 level

*Spanish*

Spanish 200, 201

Spanish 204 or 206

Spanish 220, 221, 225, 240 or 265

Spanish 307 or 308

three literature courses,  
two of which must be  
at the 300 level

Spanish 200 or 201

Spanish 204 or 206

Spanish 302 or 308

one literature course  
at the 200 or 300 level

In addition to the course work described above, Romance Language majors must take one semester of Senior Conference in French or Spanish, when those languages are chosen. When Italian is chosen, students must either select an additional literature course in Italian at the 200 or 300 level or take Italian 403, offered in consultation with the department. An oral examination (following the current model in the various departments) is given in either of the two languages, according to the student's preference. The Senior Conference and Italian 403 in both semesters include consideration of Romance topics.

Interdepartmental courses at the 200 or 300 level are offered from time to time by the cooperating departments. These courses are conducted in English on such comparative Romance topics as epic, romanticism, or literary vanguard movements of the twentieth century. Students should be able to read texts in two of the languages in the original.

## Interdepartmental Areas of Concentration

### EAST ASIAN STUDIES

*Advisers:*

Michael Nylan, Ph.D., *Assistant Professor of Chinese Studies in History and Political Science, at Bryn Mawr College*

Paul J. Smith, *Professor of History, at Haverford College*

The East Asian Studies Program coordinates the East Asian Studies concentration and the Chinese and Japanese language programs. It is administered jointly by Bryn Mawr and Haverford Colleges.

The concentration in East Asian Studies is designed to provide general but focused instruction in the major East Asian cultures, promote cross-cultural understanding, and address the needs of students who plan to specialize in East Asia in their professional careers. The concentration is supported by the Departments of Anthropology, Economics, History, and Political Science at Bryn Mawr and by the Departments of History, Religion, and Political Science at Haverford. Students in other departments may participate with the consent of their department chairmen.

Students who concentrate in East Asian Studies must fulfill a language requirement in one of three ways: native fluency, two years of satisfactory classwork, or the successful completion of a proficiency examination geared to the second-year level. Bryn Mawr and Haverford Colleges jointly offer three years of Chinese, and Haverford offers two years of Japanese; Korean is offered at the University of Pennsylvania. In addition, students are encouraged to take advantage of intensive language programs in the United States and abroad.

As a foundation for more advanced work, all students are required to take the two-semester Introduction to East Asian Civilizations (History 131a, b at Haverford). Students are also required to take four additional courses in East Asian fields. It is expected that departmental senior theses address issues concerning East Asia; seniors have the opportunity to meet on a regular basis in a seminar. Because the successful completion of the concentration depends on careful course planning and consultation with faculty of the two colleges, students are urged to declare their intention to concentrate by the first semester of their junior year.

#### **East Asian Studies Courses at Bryn Mawr:**

Anthropology 261. Peoples and Cultures of Southeast Asia  
Anthropology 313. Linguistic Anthropology  
Anthropology 315. Chinese Language in Society  
Cities 353. Chinese Notions of Time and Space: Houses,  
Gardens, and Cities  
Cities/Political Science 219. The Chinese Village  
General Studies 230. Literature of Dissent in Modern China  
General Studies 264. Social Stereotypes in China as Seen  
Through Literature  
History/Political Science 285. Early China: Material, Social,  
and Philosophical Cultures  
History of Religion 217. Early Chinese Belief  
Political Science 214. Women in Asia Today

- Political Science 260. Political Culture of Chinese Americans  
Political Science 293. Myth and Ritual in Ancient China  
Political Science 295. Political Legitimacy in China:  
Antiquity to the Present  
Political Science 230. Modern Chinese Novel  
Political Science/Philosophy 395. Origins of Political Phi-  
losophy: Greece and China

**East Asian Studies Courses at Haverford:**

- General Programs 236. Contemporary Japanese Society: A  
Sociological Perspective  
General Programs 245. Literature and the Social History of  
China and Japan  
History 131. Introduction to East Asian Civilization  
History 261a. China: The Imperial Era  
History 261b. The Chinese Revolution  
Political Science 131. Comparative Government and Politics  
Political Science 132. Comparative Politics of the Third  
World  
Political Science 233. Politics and Society of Contemporary  
India  
Religion 252. Religions of the East

**East Asian Language Courses at Bryn Mawr and Haverford:**

**Chinese**

Theresa Ko, M.A., *Lecturer, at Bryn Mawr College*  
Huang Shih-che, B.A., *Instructor, at Haverford College*

**001, 002. Elementary Chinese (Intensive)** An intensive introductory course in modern spoken and written Chinese. The development of oral-aural skills is integrated through grammar explanations and drill sessions designed to reinforce new material through active practice. Lecture three hours, drill four hours a week; also language lab and individual conversation. This is a year-long course; both semesters are required for credit.

**003, 004. Intermediate Chinese** Introduction of more complicated patterns and idiomatic phrases, with emphasis on speaking and listening. Character reading ability is enhanced through the exclusive use of texts in Chinese characters and students write short pieces using Chinese characters.



Lecture three hours, drill two hours a week; also language lab. Prerequisite: Chinese 001, 002 or equivalent.

**201, 202. Advanced Chinese** Extensive reading and discussion of a wide range of styles of modern texts in order to advance overall language proficiency. Readings include essays on academic subjects, modern vernacular literature and short stories, current political and social issues in China. Lecture three hours, drill two hours a week. Prerequisite: Chinese 003, 004 or equivalent.

### Japanese

Matthew Mizenko, A.B., *Assistant Professor, at Haverford College*

**001, 002. Elementary Japanese (Intensive)** Introduction to reading, writing, speaking, and listening, with emphasis on the development of conversational fluency in socio-cultural contexts. Lecture three hours, drill four hours a week; also language lab. This is a year-long course; both semesters are required for credit.

**003, 004. Intermediate Japanese** A continuation of elementary Japanese, focusing on the further development of oral proficiency, reading and writing skills. Lecture three hours, drill two hours a week; also language lab. Prerequisite: Japanese 001, 002 or equivalent.

### HISPANIC AND HISPANIC AMERICAN STUDIES

*Adviser:*

Willard Fahrenkamp King, Ph.D., *Dorothy Nepper Marshall Professor of Hispanic and Hispanic American Studies*

The program is designed for students interested in a comprehensive study of the society and culture of Spanish America or Spain or both. Students supplement a major in one of the cooperating departments (anthropology, economics, history, history of art, history of religion, political science, sociology, and Spanish) with (1) Spanish 240: Hispanic Culture and Civilization, the core course for the concentration, (2) allied courses outside their major department dealing with Hispanic themes or problems, and (3) a Senior Conference focusing on a topic that cuts across all the major areas involved.

Requirements for the concentration include (1) competence in Spanish, to be achieved no later than the junior year. This competence may be attested either by a score of at least 675 on the reading section of the College Board Spanish achievement exam and a score of at least 600 on the oral section of the same exam, or by the completion of Spanish 200 or 201 or another Spanish course of more advanced level with a grade of at least 2.0, (2) Spanish 240 and at least four other courses outside the major department and chosen from the courses listed below. Students should consult with their advisers as to which courses are most appropriate for their major and special interests; some apply more to the culture of Spain, others to Spanish America. Other courses may be substituted for some of these if their pertinence to the student's program can be demonstrated. Not all courses are given every year; (3) a long paper or an independent project on Spain or Spanish America, to be completed in either semester of the junior year or the first semester of the senior year as part of the work for one of the courses in the major. Topics must be approved and the paper read by both the major department and the Hispanic studies adviser; (4) a Senior Conference conducted by a faculty member in one of the departments participating in the concentration, to be completed in the second semester of the senior year. This replaces one of the Senior Conferences or seminars of the student's major, if the student so desires, and deals with a general topic of interest to all students involved in the concentration.

The Hispanic and Hispanic American Studies concentration is under the general supervision of one member of the Department of Spanish. Students are admitted into the concentration at the end of their sophomore year after the submission of a plan of study, worked out by the student and her major department, which meets the requirements of the concentration.

**Hispanic and Hispanic American Studies Courses at Bryn Mawr:**

- Anthropology 260. Native Cultures of South America
- Economics 225. Developing Economies
- Economics 232. Latin American Economic Development
- Cities 240. Urbanism and Urbanization in Developing Countries
- History 217, 218. Renaissance and Reformation
- History 320. The Rise of the Dutch Republic

History of Art 241. Baroque Art II: Painting and Sculpture in the Hapsburg Kingdoms  
History of Religion 104. History and Literature of Judaism  
Sociology 205. Social Inequality  
Sociology 218. Modernization: Problems of Development in Third World Societies  
Sociology 230. Urban Sociology  
Sociology 235. The Sociology of Development: Case Studies in Latin America and the Caribbean  
Spanish: any course at the 200 level or above, including those given in the summer at the Madrid *Centro*.

### **Hispanic and Hispanic American Studies Courses at Haverford:**

Economics 228. Economics of United States' Third World Peoples  
History 355. The Golden Age of Spain  
Political Science 237. Latin America: The Politics of Regime Transformation  
Political Science 238. Topics in Latin American Politics  
Political Science 394. Authorization and Redemocratization in Latin America and Southern Europe  
Religion 269. Cultural Identity in Third World Literature  
Religion 358. Seminar in Comparative Mysticism  
Spanish: any course at the 200 level or above.

### **INTERNATIONAL ECONOMIC RELATIONS**

#### *Adviser:*

Noel J. J. Farley, *Professor of Economics*

The Bryn Mawr program in International Economic Relations was developed in 1980, with the help of funds from the Exxon Education Foundation and the International Paper Foundation, to prepare students skilled in languages for careers in international business or law. The program combines the study of international finance and economic relations with the study of the language and culture of a specific geographical area, chosen from among the French, German, Italian, Russian, and Spanish speaking regions of the world. Students in this program usually major in economics or one of the languages but, depending on prior preparation, a student may be able to complete this program while majoring in another subject.

Participants in the program must meet complete course work in both economics and language, as well as the program's other requirements. The requirement for course work includes (1) two 200-level courses in the appropriate language (in special cases, language work done elsewhere is accepted); (2) Economics 101, 102: Introduction to Microeconomics, Introduction to Macroeconomics; Economics 206: International Economics; and Economics 216: Advanced International Economics. The program also requires (3) participation in one of the designated summer programs for the study of advanced language, area studies, and international finance. These programs usually involve both course work and a work-related internship. The summer program is normally taken following the junior year, but may be taken at another time if the student has fulfilled the program's other requirements. (4) Attendance at a special lecture series, held at Bryn Mawr, on topics in international economic relations.

Students interested in this program should consult with Professor Farley and with Dean Behrend, the undergraduate pre-professional adviser, as early as possible in their undergraduate careers.

## PEACE STUDIES

### *Adviser:*

Sidney Waldman, Ph.D., *Professor of Political Science, at Haverford College*

Peace Studies is a concentration centering on theories of conflict and cooperation within and between nations. It is both situated in, and broader than, the study of international relations within political science. It draws on the long standing interest in war and peace-making that has been at the core of this field, but also sees as central questions that have more traditionally been associated with the fields of social and personality psychology, sociology, history, and economics. It looks to these fields for theoretical understandings concerning matters such as bargaining, negotiation, the internal causes of conflict, conflict and cooperative strategies, and intergroup relations between sub-national groups. A central concern of this area of concentration is the similarities and differences between international conflict and conflict at national, regional, and local levels.

The requirements for the concentration are (1) a major in one of the participating departments such as political science,



history, or sociology. The student's main area of concentration builds outward from the departmental major and can partially overlap it (Bryn Mawr students not majoring in one of the participating departments have the option of a minor in peace studies); (2) Political Science 206: Conflict and Conflict Management and Political Science 208: Introduction to International Politics or Political Science at Haverford 141: International Politics; (3) one semester of supervised work in which the student completes a senior project supervised by one of the faculty members in the program; and (4) three courses, either inside or outside the student's major, selected from the list of approved courses given below. No more than three of the peace studies courses can also count toward the student's major. Appropriate courses offered at Swarthmore College and the University of Pennsylvania may be included with the approval of the concentration adviser.

#### **Peace Studies Courses at Bryn Mawr:**

Economics 237. The Political Economy of Military Spending  
History 370, 371. The Great Powers and the Middle East  
Political Science 241. The Politics of International Law and Institutions  
Political Science 307. Religion and Politics  
Political Science 316. Ethnic Group Politics  
Political Science 343. Liberation, Development, and Foreign Policy: Problems and Cases  
Political Science 360. Imperialism and International Conflict  
Sociology 205. Social Inequality  
Sociology 207. The Nature of Prejudice: Intergroup Relations  
Sociology 218. Modernization: Problems of Development in Third World Societies

#### **Peace Studies Courses at Haverford:**

History 225. Europe Since 1789  
History 240. History and Principles of Quakerism  
History 341. Violence in American History  
Political Science 245. International Political Systems  
Political Science 246. International Organization  
Political Science 248. Nuclear Weapons and Arms Control  
Political Science 346. Topics in International Politics  
Political Science 393. Research Seminar in International Politics  
Sociology and Anthropology 207. Internal Disorder: Deviance and Resolution

Sociology and Anthropology 237. Topics in Historical  
Sociology

**WOMEN'S STUDIES**

*Adviser:*

E. Jane Hedley, Ph.D., *Associate Professor of English*

The minor in women's studies is committed to the interdisciplinary study of women and gender and the impact of feminist thinking on other academic disciplines. The program includes courses on women's experiences considered both historically and cross culturally, on literature by and about women, on gender roles and gender socialization, and on gender bias in theories and theoretical aspects of attempts to account for gender differences. Students plan their programs in consultation with the women's studies adviser and have both the women's studies adviser and another faculty member chosen from among the members of the Faculty Committee on Feminism and Gender Studies as their advisers.

Six courses in a sequence of three stages are required for the minor. (1) An approved introductory course, chosen from Anthropology 106: Sex, Culture, and Society; Sociology 201: The Study of Gender in Society; or an approved section of English 015, 016 with significant women's studies content. Two Haverford courses, General Program 263: Gender Relations in Comparative Perspective and Political Science 257: Theories of Liberation: Feminist Political Theory, are also approved introductory courses. Equivalent courses at Swarthmore College or the University of Pennsylvania are also acceptable; individual requests to substitute other introductory level courses in women's studies are considered. (2) The women's studies core course General Studies 250: Interdisciplinary Perspectives on Gender, which is usually team taught by two faculty members from different but representative disciplines. In 1989-90 this course is to be taught by Professor of English Jane Hedley and Professor of Anthropology Judith Shapiro. First-year students are generally not eligible for this course, although unusually well prepared freshmen may be considered as exceptions. (3) Four additional approved courses from at least two different departments, two of which are 300 level or higher. Units of supervised work (403) or Haverford's senior seminar in women's studies, General Programs 391: Seminar on Gender and Women's Studies, may be used to fulfill this requirement.

Neither a senior seminar nor a senior thesis is required for the minor, although with the permission of the major department a student may choose to write a senior thesis with significant women's studies content.

**Women's Studies Courses at Bryn Mawr:**

- Anthropology 106. Sex, Culture and Society  
Anthropology 350. The Anthropology of Gender  
Arts Program 350. Gender and Theater  
English 015, 016. Reading and Composition (approved sections; at least two sections with significant focus on gender and women's experience are offered every year)  
English 284. Giving Eurydice a Voice: Women's Poetry  
English 358, 359. "Women of Talents"  
French 315. Women Writers  
French 352. Vision de la femme dans la littérature française  
French/History 246. Women in the Middle Ages  
General Studies 250. Interdisciplinary Perspectives on Gender  
German 251. Woman as Author, Woman as Sign: Women in German Literary Tradition  
History 391, 392. Topics in European Women's History (syllabus alternates "Feminist Texts and Contexts" with other topics in history, previous topics have included "Feminism and Socialism in Britain and Germany since 1848," and "Sexuality and Public Order in the Victorian Age")  
History of Religion 237. Evolving Roles of Women in Judaism  
Italian 210. Women and Opera  
Political Science 214. Women in Asia Today  
Sociology 201. The Study of Gender in Society  
Sociology 225. Women in Contemporary Society: Third World Women

**Women's Studies Courses at Haverford:**

- Classics 217. Seminar in Classical Studies: Women in Ancient Greece  
English 257. The Female Gothic  
English 278. Contemporary Women Writers  
English 362. Afro-American Women Writers and the Uses of History  
English 381. Women Writing/Women Working  
General Programs 263. Gender Relations in Comparative Perspective

- General Programs 391. Seminar on Gender and Women's Studies
- History 218. Women in Pre-Industrial Europe
- History 356. Topics in Modern European History: The Woman Question, Socialism, and the Russian Intelligentsia
- Philosophy 310. Topics in Ethics: Feminist Perspectives on Contemporary Ethical Problems
- Philosophy 313. Contemporary Philosophical Problems: Recent Issues in Feminist Theory
- Political Science 257. Theories of Liberation: Feminist Political Theory
- Religion 231. Women in Early Christianity
- Religion 239. Feminist Critique of the Christian Theological Tradition

## Interdepartmental Courses and General Studies

Certain courses offered at Bryn Mawr cut across a number of disciplines and emphasize relationships among them; these interdepartmental courses are cross-listed and described under each of the departments that sponsor them. Others focus on areas that are not usually covered in the Bryn Mawr curriculum and provide a supplement to the areas more regularly covered; these are called general studies courses and are listed in the semester course guide under the heading of "General Studies."

Sometimes these courses are taught by two or more faculty members from different departments working in close cooperation. Many general studies courses are open to all students without prerequisite. Interdepartmental courses are usually offered at the advanced level since they require some background in at least two disciplines. For students well into their major subjects, advanced interdepartmental courses provide an opportunity to apply their specific training to broader problems and to benefit from the experience of seeing their own subject from various points of view. With the permission of the major department, interdepartmental courses and general studies courses may be taken for major credit.

Recent general studies courses have included the following:



**101. Telecommunications and the Information Age** A survey of basic scientific, technological, socio-political, and cultural issues relevant to the development of telecommunications. Topics include McLuhan's version of Western cultural history, the economics and the social impact of the telecommunications industry, and the geo-political characteristics of contemporary global communications. Lecture and hands-on demonstration of the scientific basis and technical details of various electrical and electronic technologies. (Albano, Sacerio-Garí)

**120. Modern Technology and the Process of Technological Change**

**204. Sophomore Humanities Seminar: Brave New Worlds**

**208. Culture and Cuisine**

**214. Introduction to Roman Law**

**250. Interdisciplinary Perspectives on Gender** An examination of those forces that work to reproduce gender divisions within a society from generation to generation, as well as those forces that are challenging gender stratification. "Reproduction" is examined in biological, familial, social, and cultural contexts. Topics vary each year. (Hedley, Shapiro)

## **PHYSICAL EDUCATION**

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*Director:*

Jenepher P. Shillingford, M.Ed.

*Associate Director:*

Lisa N. Boyle, B.S.

*Lecturer in Dance:*

Linda Caruso Haviland, M.Ed.

*Instructors:*

Cynthia H. Bell, B.S.

Barbara Bolich, B.S.

Martha McMahan, M.S.

Raymond Tharan, B.S.

The Department of Physical Education offers intercollegiate experience in nine sports and two clubs and a broad instructional program, all based on the wellness concept. In order to meet student needs, the program has the following objectives: (1) to provide opportunities for developing skills, resulting in high levels of fitness, good nutritional habits, and coping skills in the management of stress; and (2) to provide opportunities for all students to develop skills and techniques in a chosen activity.

Bryn Mawr College believes that physical education and competition are integral parts of a liberal arts education and requires completion of eight terms (four semesters) of physical education including the successful completion of a swimming requirement.

The philosophy of physical education at Bryn Mawr reflects the wellness concept; the department attempts to help each student develop a personal responsibility for her lifestyle. The program revolves around the areas of nutrition and weight control, stress management, and fitness. Sponsored jointly by the Department of Physical Education, Bryn Mawr Dining Services, and the Health Service, the curriculum includes a semester-long course for freshmen, goal setting sessions, lectures, nutritional computer studies, and a variety of special events.

A swimming test for survival swimming is administered to new students at the beginning of the year. The test includes jumping or diving into deep water, a ten-minute swim demonstrating at least two strokes, treading, and floating. For non-swimmers, successful completion of a term of beginning swimming will fulfill the requirement.

Transfer students must have their previous physical education experience reviewed by the director of physical education. Students with special needs should consult the director of physical education.

The instructional offerings in physical education include:

*Fall:* aerobic dance, archery, ballet, cycling, dance ensemble, field hockey, golf, jogging, jazz dance, modern dance, Nautilus, riding, rope jumping, soccer, sports medicine, stretchercise, swimming, tennis, volleyball, walking, and wellness (stress management seminar);

*Winter:* aerobic dance, badminton, ballet, basketball, children's games, dance ensemble, fencing, fitness, folk dance, gymnastics, jogging, modern dance, Nautilus, nutrition, rope

jumping, self-defense, social dance, sports medicine, stretch-  
ercise, swimming, volleyball, wellness;

*Spring:* aerobic dance, archery, ballet, ballet workshop,  
cycling, dance ensemble, golf, jazz workshop, jogging, la-  
crosse, modern dance, Nautilus, riding, rope jumping, sports  
medicine, softball, stress management, stretchercise, swim-  
ming, tennis, volleyball, walking, and wellness.

Varsity team experiences at Bryn Mawr include cross-  
country, field hockey, lacrosse, basketball, swimming and  
diving, badminton, volleyball, tennis, and soccer. A modern  
dance performance club is offered during the winter and  
spring terms.

In addition, students may take courses at Haverford  
College. These courses include body building, first aid and  
personal safety, golf, handball-paddleball, intramural sports,  
karate, running techniques, badminton, squash, and yoga.  
The Department of Physical Education at Bryn Mawr and the  
Haverford Department of Athletics allow students to choose  
activities on either campus to fulfill their requirements.

## SCHOLARSHIP FUNDS AND PRIZES

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The scholarships and prizes listed below have been made available to able and deserving students through the generosity of alumnae/i and friends of the College. Many of them represent the income on endowed funds which in some cases is supplemented by an additional grant, usually taken from expendable gifts from alumnae/i and parents. A student requesting aid does not apply to a particular fund but is considered for all awards administered by the College for which she is qualified.

The Alumnae Regional Scholarship program is the largest single contributor to Bryn Mawr's scholarship awards. Bryn Mawr is the only college with an alumnae-based scholarship program independent of, yet coordinated with, the College's own financial aid program. An Alumnae Regional Scholarship carries with it special significance as an award for both academic and personal excellence.

An outstanding scholarship program has been established by the National Merit Scholarship Corporation, and several large corporations sponsor scholarship programs for children of employees. In addition to the generous awards made by these companies there are many others made by foundations and by individual and professional groups. Some of these are regional in designation. Students are urged to consult their schools and community agencies for information in regard to such opportunities.

Bryn Mawr College participates as a sponsor in the National Achievement Scholarship program. As sponsor, the College awards several scholarships through the National Merit Corporation. National Achievement finalists who have indicated that Bryn Mawr is their first choice among institutions will be referred to the College for consideration for this award.

### SCHOLARSHIP FUNDS

*The Mary L. Jobe Akeley Scholarship Fund* was established by bequest of Mary L. Jobe Akeley. It is for undergraduate scholarships with preference being given to students from Ohio. (1967)



*The Warren Akin IV Scholarship Fund* was established by gifts from Mr. and Mrs. Warren Akin (father) and Mr. and Mrs. William Morgan Akin (brother) of Warren Akin IV, M.A., 1971, Ph.D., 1975. The fund is to be used for Bryn Mawr students, with preference given to graduate students in English. (1984)

*The Alumnae Bequest Scholarship Fund* was established by bequests received for scholarships from alumnae of the College. (1965)

*Alumnae Regional Scholarships* are available to students in all parts of the United States. These scholarships, raised by alumnae, vary in amount and may be renewed each year. Recipients of the Alumnae Regional Scholarships also receive \$1,000 research stipends for projects of their choice.

*The Marion Louise Ament Scholarship Fund* was established by bequest of Berkley Neustadt in honor of his daughter Marion Louise Ament, Class of 1944. (1966)

*The Evangeline Walker Andrews May Day Scholarship* was established by bequest of Evangeline Walker Andrews, Class of 1893. The income from this fund is to be used for undergraduate scholarships in the Department of English. Mrs. Andrews originated the Bryn Mawr May Day which was first held in 1900. (1963)

*The Constance M.K. Applebee Scholarship Fund* was established by a bequest under the will of Constance M.K. Applebee, the first director of physical education at Bryn Mawr. Preference is to be given to students in physical education classes. (1981)

*The Edith Heyward Ashley and Mabel Pierce Ashley Scholarship Fund* was founded by bequest of Mabel Pierce Ashley, Class of 1910, and increased by bequest of Edith Heyward Ashley, Class of 1905. The income is to be awarded as scholarships to undergraduate students majoring in history or English. (1963)

Note: The dates in parentheses in the listings on this and the following pages indicate the year the scholarship was established.

*The Elizabeth Congdon Barron Scholarship Fund* was founded by the bequest of Elizabeth Congdon Barron, Class of 1902, "for the general purposes of the College." Through gifts from her husband, Alexander J. Barron, the fund was increased and the Elizabeth Congdon Barron Scholarship Fund was established. (1960)

*The Florence Bascom Fund* was established by bequest of Eleanor Lorenz, Class of 1918, to honor the College's first professor of geology. The income from this fund provides fellowship and scholarship monies for the Department of Geology. (1988)

*The Beekey Scholarship Fund* was established by Lois E. Beekey, Class of 1955, Sara Beekey Pfaffenroth, Class of 1963, and Mrs. Cyrus E. Beekey. The income is awarded annually to a student majoring in a modern foreign language or in English. (1985)

*The Elizabeth P. Bigelow Memorial Scholarship Fund* was established by gifts from Mrs. Henry P. Bigelow in memory of her daughter, Elizabeth P. Bigelow, who graduated cum laude in 1930. (1960)

*The Star K. Bloom and Estan J. Bloom Scholarship Fund* was established by a gift from Star K. Bloom, Class of 1960, and her husband, Estan J. Bloom. The income is to be awarded to academically superior students from the southern part of the United States with preference being given to residents of Alabama. (1976)

*The Book Shop Scholarships* are awarded annually from the income from the Book Shop Fund. (1947)

*The 1967 College Bowl Scholarship Fund* of \$16,000 was established by the Bryn Mawr College team from its winnings on the General Electric College Bowl television program. The scholarship grants were donated by the General Electric Company and by Seventeen Magazine and supplemented by gifts from the directors of the College. The members of the team were Ashley Doherty, Class of 1971; Ruth Gais, Class of 1968; Robin Johnson, Class of 1969; and Diane Ostheim, Class of 1969. Income from this fund is awarded to an entering freshman in need of assistance. (1968)

*The Norma Bowles ARCS Endowment for the Sciences* was established by a gift from Norma Landwehr Bowles, Class of 1942. This fund supports a student, fellow, or lecturer in the sciences. The award is administered in accordance with the interests of the Achievement Research for College Students Foundation, which seeks to encourage young women to pursue careers in the sciences. (1987)

*The James W. Broughton and Emma Hendricks Broughton Scholarship Fund* was established by a bequest from the estate of Mildred Hendricks Broughton, Class of 1939, in honor of her parents. The students selected for such financial aid shall be from the midwestern part of the United States. (1972)

*The Abby Slade Brayton Durfee and Mary Brayton Durfee Brown Scholarship Fund* was founded in honor of Abby Slade Brayton Durfee by bequest of her husband Randall N. Durfee. Mrs. Charles Bennett Brown, Class of 1930, and Randall N. Durfee, Jr., have added to the fund. Preference is given to candidates of English or American descent and to descendants of the Class of 1894. (1924)

*The Hannah Brusstar Memorial Scholarship* was established by a bequest from the estate of Margaret E. Brusstar, Class of 1903. The income from the fund is to be awarded annually to an undergraduate student who shows unusual ability in mathematics. (1976)

*The Bryn Mawr Alumnae Physicians Fund for Premedical Students* was established under the sponsorship of two alumnae directors of the College. The income from this fund is to provide a flexible source of financial help to women at Bryn Mawr who have decided to enter medicine, whether or not they choose to major in physical sciences. (1975)

*Bryn Mawr at the Tenth Decade* This pooled fund was established in the course of the Tenth Decade Campaign for those who wished to contribute to endowment for undergraduate student aid. (1973)

*The Jacob Fussell Byrnes and Mary Byrnes Fund* was established in memory of her mother and father by a bequest under the will of Esther Fussell Byrnes. (1948)

*The Sophia Sonne Campbell Scholarship Fund* was established by a bequest of Sophia Sonne Campbell, Class of 1951. (1973)

*The Mariam Coffin Canaday Scholarship Fund* was established by a gift from the Ward M. and Mariam C. Canaday Educational and Charitable Trust. The income from this fund is to provide scholarships with preference given to students from Toledo, Ohio, or from District VI of the Alumnae Association. (1962)

*The Antoinette Cannon Memorial Scholarship Fund* was established by a gift from Janet Thornton, Class of 1905, in memory of her friend Antoinette Cannon, Class of 1907. (1963)

*The Jeannette Peabody Cannon Memorial Scholarship Fund* was established in memory of Jeannette Peabody Cannon, Class of 1919, through the efforts of the New England Alumnae Regional Scholarship Committee, of which she was a member for twenty years. The scholarship is awarded every three years on the nomination of the Alumnae Scholarship Committee to a promising member of the freshman class, resident in New England, who needs financial assistance. The scholarship may be held during the remaining three years of her college course provided a high standard is maintained. In 1962 the fund was increased by a generous gift from Mrs. Donald Wing of New Haven. (1949)

*The Susan Shober Carey Memorial Fund* was founded in memory of Susan Shober Carey by gifts from the Class of 1925 and is awarded annually by the president. (1931)

*The Florence and Dorothy Child Memorial Scholarship of Bryn Mawr College* was founded by bequest of Florence C. Child, Class of 1905. The income from this fund is to be used for the residence fees of students who without such assistance would be unable to live in the halls. Preference is to be given to graduates of the Agnes Irwin School and to members of the Society of Friends. If no suitable applicants are available in these two groups, the scholarship aid will then be assigned by the College to students who could not live in residence halls without such assistance and who are not holding other scholarships. (1958)



*The Augusta D. Childs Scholarship Fund* was established by bequest from the estate of Augusta D. Childs. (1970)

*The Jacob Orie and Elizabeth S.M. Clarke Memorial Scholarship* was established by bequest from the estate of Elizabeth Clarke and is awarded annually to a student born in the United States or any of its territories. (1948)

*The Class of 1903 Scholarship Fund* was established by a gift on the occasion of the fiftieth reunion of the class. The income from this fund is to be awarded annually to a member of the freshman, sophomore, or junior class for use in the sophomore, junior, or senior years. (1953)

*The Class of 1922 Memorial Scholarship Fund* was established at the suggestion of members of the Class of 1922 as a perpetual class fund to which members of the class can continue to contribute. (1972)

*The Class of 1939 Memorial Fund* was established by the Class of 1939 to provide unrestricted scholarship support. (1985)

*The Class of 1943 Scholarship Fund* was established by gifts from the James H. and Alice I. Goulder Foundation, Inc., of which Alice Ireman Goulder, Class of 1943, and her husband are officers. Members of the Class of 1943 and others add to the fund which continues to grow, and it is hoped that eventually the yearly income will provide full scholarship aid for one or more students at Bryn Mawr. (1974)

*The Class of 1944 Memorial Scholarship Fund* was established by the Class of 1944 in memory of Jean Mungall and other deceased classmates. (1959)

*The Julia Cope Collins Scholarship* was established by bequest from the estate of Julia Cope Collins, Class of 1889. (1959)

*The Alice Perkins Coville Scholarship Fund* was established by Agnes Frances Perkins, Class of 1898, in honor of her sister, Alice Perkins Coville. (1948)

*The Regina Katharine Crandall Scholarship* was established by a group of her students as a tribute to Regina Katharine

Crandall, Margaret Kingsland Haskell Professor of English Composition from 1918 to 1933. The income from this fund is awarded to a sophomore, junior, or senior who in her written English has shown ability and promise and who needs assistance to continue her college work. (1950)

*The Louise Hodges Crenshaw Memorial Scholarship Fund.* The Army Emergency Relief Board of Managers approved a gift of \$10,000 representing a part of a bequest to them from Evelyn Hodges, Mrs. Crenshaw's sister. The income is to be used to provide scholarships for dependent children of Army members meeting AER eligibility requirements. (1978)

*The Annie Lawrie Fabens Crozier Scholarship Award* was established by a gift from Mr. and Mrs. Abbott P. Usher in memory of Mrs. Usher's daughter, Annie Lawrie Fabens Crozier, Class of 1951. The scholarship is to be awarded to a junior or senior of distinction who is majoring in English. (1960)

*The Rebecca Taylor Mattson Darlington Scholarship Fund* was established by members of her family in memory of Rebecca Taylor Mattson Darlington, Class of 1896. (1968)

*The E. Merrick Dodd and Winifred H. Dodd Scholarship Fund* was established by bequest of Dr. and Mrs. Dodd. (1953)

*The Dolphin Scholarship* is a full-tuition, four-year scholarship for an outstanding student from the New York City public schools, made possible by an anonymous donor. (1984)

*The Ida L. Edlin Scholarship Fund* was established by a bequest from the estate of Ida H. Edlin. The income is to be used for scholarships for deserving students in fine arts or humanities. (1976)

*The Evelyn Flower Morris Cope and Jacqueline Pascal Morris Evans Memorial Scholarship* was established by Edward W. Evans in memory of Evelyn Flower Morris Cope, Class of 1903, and Jacqueline Pascal Morris Evans, Class of 1908. The fund provides unrestricted scholarship support. (1958)

*The Ellen Winsor and Rebecca Winsor Evans Memorial Scholarship Fund* was established by bequests by both Ellen Winsor and Rebecca Winsor Evans. The scholarship is to be awarded to a resident black student. (1959)

*The Marguerite N. Farley Scholarship Fund* was established by a bequest of Marguerite N. Farley with preference to be given to foreign students. (1956)

*The Helen Feldman Scholarship Fund* was established by the Class of 1968 at their graduation and friends of Helen Feldman, Class of 1968. The income from this fund is to be used to support summer study in the Soviet Union. (1968)

*The Donita Ferguson Scholarship Fund* was established by a bequest from the estate of Donita Ferguson Borden, Class of 1932. The fund provides unrestricted scholarship support. (1987)

*The Frances C. Ferris Scholarship Fund* was established by a bequest from the estate of Frances C. Ferris. The income from this fund is to be used to assist Friends who would otherwise be unable to attend Bryn Mawr College. (1977)

*The Anna Long Flanagan Scholarship Fund* was established by a gift from Anna Long Flanagan, Class of 1906, on the occasion of the fifty-fifth reunion of the class. The income is to be used to provide scholarships for Protestant students. (1961)

*The Reginald S. and Julia W. Fleet Foundation Scholarship Fund* was established by gifts from the Reginald S. and Julia W. Fleet Foundation. (1974)

*The Alice Downing Hart Floyd Scholarship Fund* was established by a bequest from the estate of Olive Floyd, Class of 1922. The scholarship is awarded for four years to a student with high academic potential and achievement and a well-rounded personality, preferably from New England. (1986)

*The Cora B. Fohs and F. Julius Fohs Perpetual Scholarship Fund* was established by a gift from the Fohs Foundation. (1965)

*The Folly Ranch Fund* was established by an anonymous gift, the income from which is to be used for graduate and undergraduate scholarships in honor of Eleanor Donnelley Erdman, Class of 1921; Clarissa Donnelley Haffner, Class of 1921; Elizabeth P. Taylor, Class of 1921; and Jean T. Palmer, Class of 1924. (1974)

*The William Franklin Scholarship Fund* was established by a bequest from Susan B. Franklin, Class of 1889. The income from this fund is to be used for scholarships for deserving girls, preference being given whenever possible to girls from the Rogers High School, Newport, Rhode Island. (1957)

*The Edgar M. Funkhouser Memorial Scholarship Fund* was established from his estate by Anne Funkhouser Francis, Class of 1933. Awards may vary in amount up to full tuition and be tenable for four years, preference being given first to residents of southwest Virginia; thereafter to students from District IV eligible for aid in any undergraduate year. (1964)

*The Helen Hartman Gemmill Scholarship* for students majoring in English has been funded by the Warwick Foundation since 1967 and currently is in the amount of \$2,000 per year. In addition, from the fortieth reunion gift from Helen Hartman Gemmill, Class of 1938, the amount of \$1,600 is awarded annually. (1967)

*The Phyllis Goodhart Gordan Scholarship Fund* was established by gifts from the Class of 1935, in honor of Phyllis Goodhart Gordan, Class of 1935. The fund is used to support scholarships with preference given to students in the languages. (1985)

*The Edith Rockwell Hall Scholarship Fund* was established by a bequest from the estate of Florence R. Hall in memory of her sister Edith Rockwell Hall, Class of 1892. (1977)

*The Anna Hallowell Memorial Scholarship* was founded in memory of Anna Hallowell by her family. The income is awarded annually to the junior in need of aid who has the highest academic record. (1912)

*The Alice Ferree Hayt Memorial Prize* was established by a bequest from the estate of Effie Todd Hayt in memory of her daughter Alice Ferree Hayt. The income of the fund is to be awarded annually to one or more students of the College in need of financial assistance for their personal use. (1977)



*The Nora Healy Scholarship Fund* was established by friends and family in memory of Nora M. Healy, mother of Margaret M. Healy, Ph.D., 1969, and Nora T. Healy, M.S.S., 1973. The fund gives preference to students in the Graduate School of Arts and Sciences or the Graduate School of Social Work and Social Research. (1984)

*The Katharine Hepburn Scholarship*, value \$1,000, first given for the year 1969-70, is awarded annually in honor of Katharine Hepburn to a student interested in the study of drama and motion pictures and in the cultivation of English diction and literary appreciation. (1952)

*The Katharine Houghton Hepburn Memorial Scholarship* was given in memory of Katharine Houghton Hepburn, Class of 1900. The income on this fund is awarded for the junior or senior year to a student or students who have demonstrated both ability in her or their chosen field and independence of mind and spirit. (1958)

*The George Bates Hopkins Memorial Scholarships* were founded by a gift from Mrs. Elizabeth Hopkins Johnson in memory of her father. Preference is given to students of music and, in default of these, to students majoring in history and thereafter to students in other departments. (1921)

*The Maria Hopper Scholarships*, two in number, were founded by bequest under the will of Maria Hopper of Philadelphia and are awarded annually. The income from this fund is used for aid to sophomores. (1901)

*The Leila Houghteling Memorial Scholarship Fund* was founded in memory of Leila Houghteling, Class of 1911, by members of her family and a group of her contemporaries. It is awarded every three years on the nomination of the Alumnae Scholarship and Loan Fund Committee to a member of the freshman class and is held during the remaining three years of her college course. (1929)

*The Shippen Huidekoper Scholarship Fund* was established by an anonymous gift. The income is awarded annually on the nomination of the president. (1936)

*The Evelyn Hunt Scholarships*, two in number, were founded in memory of Evelyn Hunt by a bequest under the will of Evelyn Ramsey Hunt, Class of 1898. (1931)

*The Lillia Babbitt Hyde Scholarship Fund* was established by gifts from the Lillia Babbitt Hyde Foundation to establish the Lillia Babbitt Hyde Scholarship for award, in so far as possible, to students whose major subject will lead to a medical education or a scientific education in chemistry. (1963)

*The Jane Lilley Ireson Scholarship* was established by a bequest under the will of Jennie E. Ireson, her daughter. The income on units of this fund is awarded. (1959)

*The Alice Day Jackson Scholarship Fund* was given by the late Percy Jackson in memory of his wife, Alice Day Jackson, Class of 1902. The income from this fund is awarded annually to an entering student. (1930)

*The Elizabeth Bethune Higginson Jackson Scholarship Fund* was established by gifts in memory of Elizabeth Bethune Higginson Jackson, Class of 1897, by members of her family and friends. The income from the fund is to be used for scholarships for undergraduate students as determined by the College Scholarship Committee. (1974)

*The E. Wheeler and Florence Jenkins Scholarship Fund* was established by a bequest of Dorothy DeG. Jenkins, Class of 1920. The fund is used to establish scholarships in memory of her parents, with preference given to students in the Departments of Mathematics or Physics. (1981)

*The Henrietta C. Jennings Scholarship Fund* was established with remainder interest of a Living Income Agreement provided by Henrietta C. Jennings. (1984)

*The Pauline Jones Scholarship Fund* was established by friends, students, and colleagues in honor of Pauline Jones, Class of 1935, upon the occasion of her retirement after five decades of service to the College. The fund provides financial aid to either undergraduate French majors or graduate students in French. (1985)

*The Sue Mead Kaiser Scholarship Fund* was established by the alumnae of the Bryn Mawr Club of Northern California and other individuals in memory of Sue Mead Kaiser, Class of 1931. (1974)

*The Kathryn M. Kalbfleisch and George C. Kalbfleisch Scholarship Fund* was established under the will of Kathryn M. Kalbfleisch, Class of 1924. (1972)

*The Alice Lovell Kellogg Fund* was founded by a bequest by Alice Lovell Kellogg, Class of 1903. (1965)

*The Minnie Murdoch Kendrick Memorial Scholarship*, tenable for four years, was founded by bequest of George W. Kendrick, Jr., in memory of his wife. It is awarded every four years to a candidate nominated by the Alumnae Association of the Philadelphia High School for Girls. (1916)

*The Misses Kirk Scholarship Fund* was founded in honor of the Misses Kirk by the Alumnae Association of the Kirk School in Bryn Mawr. (1929)

*The Catharine J. Korman Scholarship Fund* was established by a bequest from the estate of Catharine J. Korman, Class of 1917, to provide unrestricted scholarship support. (1986)

*The Ida E. Richardson, Alice H. Richardson, and Edward P. Langley Scholarship Fund* was established by bequest under the will of Edward P. Langley. (1969)

*The Minor W. Latham Scholarship Fund* was established by a bequest from the estate of John C. Latham in memory of his sister, Minor W. Latham, a graduate student at Bryn Mawr in 1904. The scholarships provide tuition, living expenses, and extras for one or more financially needy students from the South who will major in or are majoring in English literature. (1984)

*The Marguerite Lehr Scholarship Fund* was established through gifts made by former students and friends of Marguerite Lehr, Ph.D. 1925, and member of the Bryn Mawr faculty from 1924 to 1967. The income from this fund supports needy undergraduate students who have demonstrated excellence in the field of mathematics. (1988)

*The Clara Bertram Little Memorial Scholarship* was founded by Eleanor Little Aldrich, Class of 1905, in memory of her mother. The income is awarded to an entering student from New England on the basis of merit and financial need. (1947)

## Scholarship Funds

*The Mary Anna Longstreth Memorial Scholarship* was given in memory of Mary Anna Longstreth by alumnae and children of alumnae of the Mary Anna Longstreth School and by a few of her friends. (1912)

*The Lorenz-Showers Scholarship Fund* was established by Justina Lorenz Showers, Class of 1907, in honor of her parents, Edmund S. Lorenz and Florence K. Lorenz, and of her husband, John Balmer Showers. (1943)

*The Alice Low Lowry Memorial Scholarship Fund* was established by gifts in memory of Alice Low Lowry, Class of 1938, by members of her family and friends. The income is to be used for scholarships for undergraduate and graduate students. (1968)

*The Lucas Scholarship Fund* was established by Diana Daniel Lucas, Class of 1944, in memory of her parents, Eugene Willett van Court Lucas, Jr., and Diana Elmendorf Richards Lucas; her brother, Peter Randell Lucas; and her uncle, John Daniel Lucas. The fund provides unrestricted scholarship support. (1985)

*The Katherine Mali Scholarship Fund* was established by a bequest of Katherine Mali, Class of 1923, for undergraduate scholarships. (1980)

*The Helen Taft Manning Scholarship Fund* was established by Julia Bolton Fleet, Class of 1943, through a gift from the Reginald and Julia B. Fleet Foundation, in memory of Helen Taft Manning, Class of 1915. The income from this fund provides unrestricted undergraduate scholarship support. (1987)

*The Dorothy Nepper Marshall Scholarship Fund* was established by a bequest from the estate of Dorothy Nepper Marshall, Ph.D. 1944, to provide unrestricted scholarship support. (1986)

*The Katharine E. McBride Undergraduate Scholarship Fund* was established by a gift made by Gwen Davis, Class of 1954. It has been added to by others in honor of Miss McBride. (1970)



*The Gertrude Howard McCormick Scholarship Fund* was established by gift of the late Gertrude Howard McCormick. The scholarship, value \$1,000, is awarded to a student of excellent standing, preferably for her freshman year. If she maintains excellent work in college, she may continue to receive scholarship aid through her sophomore, junior, and senior years. (1950)

*The Anne Cutting Jones and Edith Melcher Scholarship Fund* was established by a bequest of Anne Cutting Jones and Edith Melcher for a student in the Department of French. (1971)

*The Midwest Scholarship Endowment Fund* was established by alumnae from District VII in order "to enlarge the benefits which can be provided for able students from the midwest." (1974)

*The Beatrice Miller Memorial Scholarship Fund* was established by a bequest of Beatrice Miller Ullrich, Class of 1913. (1969)

*The Elinor Dodge Miller Scholarship Fund* was established by the Miller and Chevalier Charitable Foundation in memory of Elinor Dodge Miller, Class of 1902. The fund provides scholarship support to students of good moral character and honorable conduct whose past scholarship records are meritorious. (1959)

*The Jesse S. Moore Foundation Fund* was established by Caroline Moore, Class of 1956, for post-college women with financial need who have matriculated at Bryn Mawr from the Special Students Program. (1982)

*The Constance Lewis and Martha Rockwell Moorhouse 1904 Memorial Scholarship Fund* was established by the Class of 1904 in memory of their classmates Constance Lewis and Martha Rockwell Moorhouse. (1920)

*The Margaret B. Morison Scholarship Fund* was established by a bequest of Margaret B. Morison, Class of 1907. The fund gives preference to graduates of the Bryn Mawr School in Baltimore, Maryland. (1981)

*The Mary McLean and Ellen A. Murter Memorial Fund* was founded in memory of her two aunts by bequest of Mary E. Stevens of Germantown, Philadelphia. The income is used for an annual scholarship. (1933)

*The Frank L. Neall and Mina W. Neall Scholarship Fund* was established by a legacy from the estate of Adelaide W. Neall, Class of 1906, in memory of her parents. (1957)

*The New Hampshire Scholarship Fund* was established by the Spaulding-Potter Charitable Trust. A matching fund was raised by contributions from New Hampshire alumnae. Income from the two funds is awarded each year to an undergraduate from New Hampshire. (1964)

*The Alice F. Newkirk Scholarship Fund* was founded by bequest of Alice F. Newkirk, graduate student in 1910-12 and 1919-20. (1965)

*The Patricia McKnew Nielsen Scholarship Fund* was established by Patricia McKnew Nielsen, Class of 1943. The fund gives unrestricted scholarships to undergraduate students. (1985)

*The Bertha Norris Bowen and Mary Rachel Norris Memorial Scholarship Fund* was established by bequest under the will of Mary Rachel Norris, Class of 1905, B.A. 1906, M.S. 1911, in memory of Bertha Norris Bowen, who was for many years a teacher in Philadelphia. (1971)

*The Mary Frances Nunns Scholarship Fund* was established by a bequest under the will of Mary Frances Nunns. (1960)

*The Pacific Northwest Scholarship Fund* was established by a gift from Natalie Bell Brown, Class of 1943. Preference is given to students from the Pacific Northwest. (1976)

*The Florence Morse Palmer Scholarship* was founded in memory of Florence Morse Palmer by her daughter, Jean T. Palmer, Class of 1924. (1954)

*The Margaret Tyler Paul Scholarship* was established by the fortieth reunion gift from the Class of 1922. (1963)

*The Fanny R. S. Peabody Scholarship Fund* was established by bequest of Fanny R. S. Peabody. The income from the Peabody Fund is awarded to students from the western states. (1942)

*The Delia Avery Perkins Scholarship* was established by bequest from Delia Avery Perkins, Class of 1900. Mrs. Perkins was chairman of the New Jersey Scholarship Committee for a number of years. The income on this fund is to be awarded to freshman students from Northern New Jersey. (1965)

*The Mary DeWitt Pettit Scholarship Fund* was established by a gift from the Class of 1928 to honor their classmate and is used for student scholarship aid. (1978)

*The Ethel C. Pfaff Scholarship Fund* was established by a bequest from Ethel C. Pfaff, Class of 1904. The income from this fund is to be awarded to entering freshmen. (1967)

*The Louise Hyman Pollak Scholarship* was founded by the Board of Trustees from a bequest by Louise Hyman Pollak, Class of 1908. The income from this fund, which has been supplemented by gifts from the late Julian A. Pollak and his son, David Pollak, is awarded annually to an entering student from one of the central states, east of the Mississippi River. Preference is given to residents of Cincinnati. (1932)

*The Porter Scholarship Fund* was established by Carol Porter Carter, Class of 1960, and her mother, Mrs. Paul W. Porter. The fund supports a returning student by providing funds for books or living expenses. (1985)

*The Anna M. Powers Memorial Scholarship* was founded in memory of Anna M. Powers by a gift from her daughter, Mrs. J. Campbell Harris. It is awarded annually to a senior. (1902)

*The Anna and Ethel Powers Memorial Scholarship* was established by a gift in memory of Anna Powers, Class of 1890, by her sister, Mrs. Charles Merrill Hough. The fund has been re-established in memory of both Anna Powers and her sister, Mrs. Hough (Ethel Powers), by Nancy Hough Smith, Class of 1925. (1919)

*The Thomas H. Powers Memorial Scholarship* was founded in memory of Thomas H. Powers by bequest under the will of his daughter, Mrs. J. Campbell Harris. It is awarded annually to a senior. (1902)

*The Bryn Mawr Club of Princeton Scholarship* was established by the alumnae of the Bryn Mawr Club of Princeton. (1974)

*The James E. Rhoads Memorial Scholarships* were founded in memory of the first president of the College, Dr. James E. Rhoads, by the Alumnae Association of Bryn Mawr College. The income is awarded annually to two students. The James E. Rhoads Memorial Junior Scholarship is awarded to a student who has attended Bryn Mawr for at least three semesters, has done excellent work, and expresses her intention of fulfilling the requirements for the degree of Bachelor of Arts at the College. The James E. Rhoads Memorial Sophomore Scholarship is awarded to a student who has attended Bryn Mawr College for at least one semester and who also meets the above conditions. (1898)

*The Amelia Richards Scholarship* was founded in memory of Amelia Richards, Class of 1918, by bequest of her mother, Mrs. Lucy P. Wilson. It is awarded annually by the trustees on the nomination of the president. (1921)

*The Maximilian and Reba E. Richter Scholarship Fund* was established by bequest of Max Richter, father of Helen Richter Elser, Class of 1913. The income from this fund is to be used to provide assistance for one or more students in the obtaining of either an academic or professional degree. The fund shall be administered on a non-sectarian basis to such applicants as are deemed worthy by habits of character and scholarship. No promises of repayment shall be exacted but it is hoped that students so benefited will desire when possible to contribute to the fund in order that similar aid may be extended to others. Such students shall be selected from among the graduates of public high schools or public colleges in the City of New York. (1961)



*The Nancy Perry Robinson Memorial Scholarship Fund* was established by a gift from Mrs. Huston B. Almond, of Philadelphia, in memory of her godchild, Nancy Perry Robinson, Class of 1945. The income of the fund is to be awarded annually to an undergraduate student, with preference being given to a student majoring in French. (1973)

*The Marie L. Rose Huguenot Scholarship.* \$1,000 a year is available to students of Huguenot ancestry nominated by the College for award by The Huguenot Society of America. Special application forms are available from the College's Office of Financial Aid.

*The Ruth L. Sampter Fund* was established by the bequest of Ruth L. Sampter to support deserving students in the Department of English, especially those with an interest in poetry. (1989)

*The Serena Hand Savage Memorial Scholarship* was established in memory of Serena Hand Savage, Class of 1922, by her friends. It is awarded to a member of the junior class who shows great distinction of scholarship and character. This scholarship may be renewed in the senior year. (1951)

*The J. Henry Scattergood Scholarship Fund* was established by a gift from the Friends' Freedmen's Association to be used for undergraduate scholarships for black students. (1975)

*The Constance Schaar Scholarship Fund* was established by the parents and friends of Constance Schaar, Class of 1963. The Class of 1963 added their first reunion gift to this fund. (1964)

*The Scholarship Endowment Fund* was established by a gift from Constance E. Flint. (1970)

*The Zella Boynton Selden Scholarship Fund* was established in memory of Zella B. Selden, Class of 1920, in recognition of her many years of devoted work with the New York and Southern Connecticut Regional Scholarship Committee. (1976)

*The Judith Harris Selig Scholarship Fund* was established in memory of Judith Harris Selig, Class of 1957, by members of her family, classmates, and friends. In 1970 the fund was increased by a further gift from her parents, Dr. and Mrs. Herman S. Harris. (1968)

*The Mary Williams Sherman Memorial Scholarship Fund* was established by bequest of Bertha Williams of Princeton, New Jersey. (1942)

*The Frances Marion Simpson Scholarships*, carrying up to full tuition and tenable for four years, were founded in memory of Frances Simpson Pfahler, Class of 1906, by Justice Alexander Simpson, Jr. One scholarship is awarded each year to a member of the entering freshman class. In awarding these scholarships preference is given first to residents of Philadelphia and Montgomery Counties, who have been prepared in the public schools of these counties; thereafter, under the same conditions, to residents to other counties of Pennsylvania and, in special cases, to candidates from other localities. Holders of these scholarships are expected to repay the sums advanced to them. (1912)

*The Lillian Seidler Slaff Scholarship Fund* was established in memory of Lillian Seidler Slaff, Class of 1940, to provide an award to a member of the junior class for outstanding work in the social sciences. (1980)

*The Gertrude Slaughter Scholarship Fund* was established by bequest of Gertrude Taylor Slaughter, Class of 1893. The income on this fund is to be awarded preferably to students of Greek or Latin. (1964)

*The Anna Margaret Sloan and Mary Sloan Scholarships* were founded by bequest of Mary Sloan of Pittsburgh. The income is awarded annually to students majoring in philosophy or psychology. (1942)

*The Cordelia Clark Sowden Scholarship Fund* was established by a bequest from Helen C. Sowden. (1957)

*The C. V. Starr Scholarship Fund* was established by a grant from the Starr Foundation to provide scholarship support with preference to undergraduate students. (1988)

*The Marian Frances Statler Fund* was established by bequest of Ellsworth Morgan Statler in honor of his sister Marian Frances Statler, Class of 1902. The income from this fund supports undergraduate scholarships. (1988)

*The Amy Sussman Steinhart Scholarship*, carrying full tuition, was founded in memory of Amy Sussman Steinhart, Class of 1902, by her family and friends. The income is awarded annually to an entering student from one of the states on the west coast. (1932)

*The Mary E. Stevens Scholarship Fund* was given in memory of Mary E. Stevens by former pupils of the Stevens School in Germantown. The scholarship is awarded annually to a junior. (1897)

*The Anna Lord Strauss Scholarship and Fellowship Fund* was established by a gift from Anna Lord Strauss to support graduate and undergraduate students who are interested in fields leading to public service or which involve education in the process of government. (1976)

*The Summerfield Foundation Scholarship* was established by a gift from the Solon E. Summerfield Foundation. The income from this fund is to be used to assist able students who need financial help to continue their studies. (1958)

*The Mary Hamilton Swindler Scholarship* for the study of archaeology was established in honor of Mary Hamilton Swindler, Professor of Classical Archaeology from 1931 to 1949, by a group of friends and former students. (1950)

*The Elizabeth P. Taylor Scholarship Fund* was established by a bequest from Elizabeth P. Taylor, Class of 1921. (1960)

*The Marion B. Tinaglia Scholarship Fund* was established by a gift from John J. Tinaglia in memory of his wife, Edith Marion Brunt Tinaglia, Class of 1945. (1983)

*The Ethel Vick Wallace Townsend Memorial Fund* was established by Elbert S. Townsend in memory of his wife, Ethel Vick Wallace Townsend, Class of 1908. The income on this fund, held by the Buffalo Foundation, is to be used for undergraduate scholarships. (1967)

*The Kate Wendell Townsend Memorial Scholarship* was established by a bequest from Katharine W. Sisson, Class of 1920, in memory of her mother. The income is to be awarded annually to an undergraduate, preferably from New England, who has made a definite contribution to the life of the College in some way besides scholastic attainment. (1978)

*The Anne Hawks Vaux Scholarship Fund* was founded in her memory by her husband, George Vaux, and added to by some of her friends. The income is to be awarded annually to a student in need of financial aid. (1979)

*The Elizabeth Gray Vining Scholarship Fund* was established by gifts from over 100 alumnae and friends of the College in Japan, in honor of Elizabeth Vining, Class of 1923, former tutor to the Crown Prince. The purpose of this fund is to support Bryn Mawr alumnae, graduate students, or faculty members who desire to do academic research in Japan or to have direct contact with Japanese culture. (1973)

*The Mildred and Carl Otto von Kienbusch Fund* was established by bequest of C. Otto von Kienbusch. (1976)

*The Mildred Clarke Pressinger von Kienbusch Fund* was established by C. Otto von Kienbusch in memory of his wife, Mildred Clarke Pressinger von Kienbusch, Class of 1909. (1968)

*The Mary E.G. Waddell Scholarship Fund* was established by a bequest from the estate of Mary E.G. Waddell. The income from this fund is to be used for scholarships for undergraduates and graduate students interested in the study of mathematics who are daughters of American citizens of Canadian descent. (1972)

*The Julia Ward Scholarship Fund* was established by a gift for a scholarship in memory of Julia Ward, Class of 1923, by one of her friends and by additional gifts from others. The income is to be used for undergraduate scholarships. (1963)

*The Eliza Jane Watson Scholarship Fund* was established by gifts from the John Jay and Eliza Jane Watson Foundation. The income from this fund is to be used to assist one or more students to meet the cost of tuition. (1964)

*The Elizabeth Wilson White Memorial Scholarship* was founded in memory of Elizabeth Wilson White by a gift by Thomas Raeburn White. It is awarded annually by the president. (1923)



*The Susan Opstad White '58 Scholarship Fund* was established by Mrs. Raymond Opstad in honor of her daughter, Susan Opstad White, Class of 1958. The scholarship is awarded annually to a deserving student in need of financial help. (1987)

*The Thomas Raeburn White Scholarships* were established by Amos and Dorothy Peaslee in honor of Thomas Raeburn White, trustee of the College from 1907 until his death in 1959, counsel to the College throughout these years, and president of the trustees from 1956 to 1959. The income from the fund is to be used for prizes to undergraduate students who plan to study foreign languages abroad during the summer under the auspices of an approved program. (1964)

*The Ruth Whittredge '25 Scholarship Fund* was established by Ruth Whittredge, Class of 1925, to provide financial aid to students, with preference given to graduate students. (1986)

*The Mary R. G. Williams Scholarship Fund* was established by a bequest of Mary R. G. Williams. The income is used for emergency grants to women who are paying their way through college. (1958)

*The Mary Peabody Williamson Scholarship* was founded by bequest of Mary Peabody Williamson, Class of 1903. (1939)

*The Rebecca Winsor Evans and Ellen Winsor Memorial Scholarship Funds* were established by a bequest of Rebecca Winsor Evans and Ellen Winsor for resident black students. (1959)

*The Marion H. Curtin Winsor Memorial Scholarship* was established by a bequest of Mary Winsor in memory of her mother. The income on this fund is to be awarded to a resident black student. (1959)

*The Mary Winsor Scholarship in Archaeology* was established by a bequest under the will of Mary Winsor. (1959)

*The Mary K. Woodworth '24 and Allegra Woodworth '25 Scholarship Fund* was established by Mary Katharine Woodworth, Class of 1924, in memory of her sister. A bequest from Mary Woodworth increased the size of the fund and expanded its purpose in 1989. The scholarship is awarded annually to a student with a compelling interest in history and world affairs, history of art, or English literature. (1986)

*The Gertrude Miller Wright Scholarships* were established under the will of Dorothy M. Wright, Class of 1931, for needy students of Bryn Mawr College. (1972)

*The Lila M. Wright Memorial Scholarship* was founded in her memory by gifts from the alumnae of Miss Wright's School of Bryn Mawr. (1934)

*The Margaret W. Wright and S. Eric Wright Scholarship Fund* was established by a bequest from the estate of Margaret White Wright, Class of 1943. The fund provides financial aid to needy students of Quaker lineage. (1985)

*The Georgie W. Yeatman Scholarship* was founded by bequest under the will of Georgie W. Yeatman of Philadelphia. (1941)

## SCHOLARSHIPS FOR INTERNATIONAL STUDENTS

*The Frances Porcher Bowles Memorial Scholarship Fund* was established by donations from various contributors in memory of Frances Porcher Bowles, Class of 1936. The income is used for scholarship aid to foreign students. (1985)

*The Bryn Mawr/Africa Exchange Fund* is an anonymous donation given to support scholarship aid to African students in the undergraduate College or graduate school of Bryn Mawr, for study and research in Africa by Bryn Mawr faculty and students, for lectures or lectureships at Bryn Mawr by visiting African scholars, statesmen, and artists, and for library and teaching materials for African studies at Bryn Mawr. (1973)

*The Bryn Mawr Canadian Scholarship* is raised and awarded each year by Bryn Mawr alumnae living in Canada. The scholarship, varying in amount, is awarded to a Canadian student entering either the undergraduate College or graduate school. (1965)

*The Chinese Scholarship* comes in part from the annual income of a fund established by a group of alumnae and friends of the College in order to meet all or part of the expenses of a Chinese student during her four undergraduate years at Bryn Mawr College. (1978)

*The Elizabeth Dodge Clarke Scholarship Fund* was established by the Cleveland H. Dodge Foundation for support of international students. (1984)

*The Barbara Cooley McNamee Dudley Scholarship Fund* was established by a gift from Robin Krivanek, sister of Barbara Cooley McNamee Dudley, Class of 1942, for financial aid to undergraduate and graduate students from foreign countries. (1983)

*The Marguerite N. Farley Scholarships* for foreign students were established by bequest of Marguerite N. Farley. The income from the fund is used for scholarships for foreign graduate and undergraduate students covering part or all of their expenses for tuition and residence. (1956)

*The Susan Grimes Walker Fitzgerald Fund* was established by a gift from Susan Fitzgerald, Class of 1929, in honor of her mother Susan Grimes Walker Fitzgerald, Class of 1893. It is to be used for foreign graduate and undergraduate students studying at Bryn Mawr or for Bryn Mawr students doing research abroad in the summer or during the academic year. (1975)

*The Margaret Y. Kent Scholarship Fund* was established by bequest of Margaret Y. Kent, Class of 1908. It is to be used to provide scholarship assistance to foreign students. (1976)

*The Lora Tong Lee Memorial Scholarship* is awarded annually by the Lee Foundation, Singapore, to a Chinese student for tuition, room, and board, in memory of Lora Tong Lee, M.A. 1944. (1975)

*The Middle East Scholarship Fund* was established by a gift from Elizabeth Cope Harrison, Class of 1958. The purpose of the fund is to enable the College "to make scholarship awards to able students from a number of Middle Eastern Countries." (1975)

*The Mrs. Wistar Morris Japanese Scholarship* was established when the Japanese Scholarship Committee of Philadelphia, founded in 1893, turned over its assets to Bryn Mawr College. The income from this fund is to be used for scholarships for Japanese women. (1978)

*The Special Trustee's Scholarship* is awarded every four years to a foreign student. It carries free tuition and is tenable for four years. The scholarship for students from foreign countries was first offered by the trustees in 1940.

*The Harris and Clare Wofford International Fund* is an endowed fund, the income only to be used to support the College's international activities with emphasis on providing scholarships for international students at Bryn Mawr. (1978)

## PRIZES AND ACADEMIC AWARDS

The following awards, fellowships, scholarships, and prizes are in the award of the faculty and are given solely on the basis of academic distinction and achievement.

*The Academy of American Poets Prize* of \$100, awarded in memory of Marie Bullock, the Academy's founder and president, is given each year to the student who submits to the Department of English the best poem or group of poems. The award was first made in 1957.

*The Seymour Adelman Book Collector's Award* is given each year to a student for a prize-winning collection on any subject, single author, or group of authors, and may include manuscripts and graphics. (1980)

*The Seymour Adelman Poetry Award* was established by Daniel and Joanna Semel Rose, Class of 1952, to provide an award in honor of Seymour Adelman. The award is designed to stimulate further interest in poetry at Bryn Mawr. Any member of the Bryn Mawr community—undergraduate or graduate student, staff or faculty member—is eligible for consideration. The grant may be awarded to fund research in the history or analysis of a poet or poem, to encourage the study of poetry in interdisciplinary contexts, to support the writing of poetry, or to recognize a particularly important piece of poetic writing. (1985)



*The Horace Alwyne Prize* was established by the Friends of Music of Bryn Mawr College in honor of Horace Alwyne, Professor Emeritus of Music. The award is presented annually to the student who has contributed the most to the musical life of the College. (1970)

*The Bain-Swiggett Poetry Prize* was established by a gift of Mr. and Mrs. Glen Levin Swiggett. This prize is to be awarded by a committee of the faculty on the basis of the work submitted. (1958)

*The Berle Memorial Prize Fund* in German Literature was established by Lillian Berle Dare in memory of her parents, Adam and Katharina Berle. The income on the fund is awarded annually to an undergraduate for excellence in German literature. Preference is given to a senior who is majoring in German and who does not come from a German background. (1975)

*The General Electric Foundation Katherine Blodgett Fellowship* was established in memory of Katherine Blodgett, Class of 1917, one of the first women industrial scientists, who was associated with General Electric for many years. It provides full support to a graduating senior for the first year of graduate work directed towards a Ph.D. in physics, chemistry, engineering, or computer science at another institution in the United States. (1980)

*The Bolton Prize* was established by the Bolton Foundation as an award for students majoring in the Growth and Structure of Cities. (1985)

*The Bryn Mawr European Fellowship* has been awarded each year since the first class graduated in 1889. It is given for merit to a member of the graduating class, to be applied toward the expenses of one year's study at some foreign university.

*The Commonwealth Africa Scholarship* was established by a grant from the Thorncroft Fund Inc. at the request of Helen and Geoffrey de Freitas. The income from this fund is used to send, for at least six months, a graduate to a university or college in Commonwealth Africa or a former British colony in Africa, to teach or to study, with a view to contributing to mutual understanding and the furtherance of scholarship. (1965)

*The Hester Ann Corner Prize* for distinction in literature was established in memory of Hester Ann Corner, Class of 1942, by gifts from her family, classmates, and friends. The award is made biannually to a junior or senior on the recommendation of a committee composed of the chairmen of the Departments of English and of Classical and Modern Foreign Languages. (1950)

*The Katherine Fullerton Gerould Memorial Prize* was founded by a gift from a group of alumnae, many of whom were students of Mrs. Gerould when she taught at Bryn Mawr from 1901 to 1910. The fund was increased by a bequest of one of her former students. It is awarded by a special committee to a student who shows evidence of creative ability in the fields of informal essay, short story, and longer narrative or verse. (1946)

*The Elizabeth Duane Gillespie Fund for Scholarships in American History* was founded by a gift from the National Society of Colonial Dames of America in the Commonwealth of Pennsylvania in memory of Elizabeth Duane Gillespie. Two prizes are awarded annually on nomination by the Department of History, one to a member of the sophomore or junior class for work of distinction in American history, a second to a student doing advanced work in American history for an essay written in connection with that work. The income from this fund has been supplemented since 1955 by annual gifts from the Society. (1903)

*The Maria L. Eastman Brooke Hall Memorial Scholarship* was founded in memory of Maria L. Eastman, principal of Brooke Hall School for Girls, Media, Pennsylvania, by gifts from the alumnae and former pupils of the school. It is awarded annually to the member of the junior class with the highest general average and is held during the senior year. Transfer students who enter Bryn Mawr as members of the junior class are not eligible for this award. (1901)

*The Dorothy Irwin Headley Award* is given for excellence in art history and is awarded annually to the student who writes the best comprehensive examination in art history. (1979)

*The Charles S. Hinchman Memorial Scholarship* was founded in the memory of the late Charles S. Hinchman of Philadelphia by a gift made by his family. It is awarded annually to a member of the junior class for work of special excellence in her major subjects and is held during the senior year. (1921)

*The Sarah Stifler Jesup Fund* was established in memory of Sarah Stifler Jesup, Class of 1956, by gifts from New York alumnae, as well as family and friends. The income is to be awarded annually to one or more undergraduate students to further a special interest, project, or career goal during term time or vacation. (1978)

*The Pauline Jones Prize* was established by friends, students, and colleagues of Pauline Jones, Class of 1935. The prize is awarded to the student writing the best essay in French, preferably on poetry. (1985)

*The Anna Lerah Keys Memorial Prize* was established by friends and relatives in memory of Ann Lerah Keys, Class of 1979. The prize is awarded to an undergraduate majoring in classical and Near Eastern archaeology. (1984)

*The Sheelah Kilroy Memorial Scholarships* in English were founded in memory of their daughter Sheelah by Dr. and Mrs. Phillip Kilroy. These prizes are awarded annually on the recommendation of the Department of English as follows: to a student for excellence of work in second-year or advanced courses in English, and to the student in the first-year course in English Composition who writes the best essay during the year. (1919)

*The Helen Taft Manning Essay Prize* in History was established in honor of Helen Taft Manning, in the year of her retirement, by her class (1915). The income is to be awarded as the Department of History may determine. (1957)

*The Nadia Anne Mirel Memorial Fund* was established by the family and friends of Nadia Anne Mirel, Class of 1985. The fund supports the research or travel of students undertaking imaginative projects in the following areas: children's educational television; children's educational film and video; and photography. (1986)

*The Alexandra Peschka Prize* was established in memory of Alexandra Peschka, Class of 1964, by gifts from her family and friends. The prize of \$100 is awarded annually to a member of the freshman or sophomore class and writer of the best piece of imaginative writing in prose. The award is made by a committee of the Department of English, who consults the terms stated in the deed of gift. (1969)

*The Jeanne Quistgaard Memorial Prize* was given by the Class of 1938 in memory of their classmate Jeanne Quistgaard. The income from this fund may be awarded every two years to a student in economics. (1938)

*The Charlotte Angas Scott Prize in Mathematics* is awarded annually to an undergraduate on the recommendation of the Department of Mathematics. It was established by an anonymous gift in memory of Charlotte Angas Scott, professor of mathematics and a member of the faculty of Bryn Mawr College from 1885 to 1924. (1960)

*The Elizabeth G. Shippen Scholarships* were founded by two bequests under the will of Elizabeth S. Shippen of Philadelphia. Three prizes are awarded annually, one to the member of the senior class who receives the Bryn Mawr European Fellowship and two to members of the junior class, as follows: 1. The Shippen Scholarship in Science to a student whose major subject is biology, chemistry, geology, or physics; 2. The Shippen Scholarship in Foreign Languages to a student whose major subject is French, German, Greek, Italian, Latin, Russian, or Spanish. To be eligible for either of these two scholarships a student must have completed at least one semester of the second-year course in her major subject. Neither may be held by the winner of the Charles S. Hinchman Memorial Scholarship. Work in elementary courses will not be considered in awarding the scholarship in foreign languages; 3. The Shippen Scholarship for Foreign Study. See the *Bryn Mawr European Fellowship* above. (1915)

*The Gertrude Slaughter Fellowship* was established by a bequest of Gertrude Taylor Slaughter, Class of 1893. The fellowship is to be awarded to a member of the graduating class for excellence in scholarship to be used for a year's study in the United States or abroad. (1964)



*The Lillie Seip Snyder Prize Fund* was established by Frances L. Snyder and Nellie Fink, daughters of Lillie Seip Snyder. The prize is awarded annually to a graduate or undergraduate major in musicology. (1976)

*The Ariadne Solter Fund* was established in memory of Ariadne Solter, Class of 1991, by gifts from family and friends to provide an annual award to a Bryn Mawr or Haverford undergraduate working on a project concerning development in a third world country. (1989)

*The Katherine Stains Prize Fund in Classical Literature* was established by Katherine Stains, in honor of two excellent twentieth-century scholars of classical literature, Richmond Lattimore and Moses Hadas. The income on the fund is to be awarded annually as a prize to an undergraduate student for excellence in Greek literature, either in the original or in translation. (1960)

*The M. Carey Thomas Essay Prize* is awarded annually to a member of the senior class for distinction in writing. The award is made by the Department of English for either creative or critical writing. It was established in memory of Miss Thomas by her niece, Millicent Carey McIntosh, Class of 1920. (1943)

*The Emma Osborn Thompson Prize in Geology* was founded by bequest of Emma Osborn Thompson, Class of 1904. From the income on the bequest a prize is to be awarded from time to time to a student in geology. (1963)

*The Hope Wearn Troxell Memorial Prize* is awarded annually by the alumnae of Southern California to a student from Alumnae District IX, with first consideration to a student from Southern California. The prize is awarded in recognition of the student's responsible contribution to the life of the College community. (1973)

*The Anne Kirschbaum Winkelman Prize*, established by the children of Anne Kirschbaum Winkelman, Class of 1948, is awarded annually to the student judged to have submitted the most outstanding short story. (1987)

*The Esther Walker Award* was founded by a bequest from William John Walker in memory of his sister, Esther Walker, Class of 1910. It may be given annually to a member of the

senior class who in the judgment of the faculty shall have displayed the greatest proficiency in the study of living conditions of northern blacks. (1940)

*The Anna Pell Wheeler Prize in Mathematics* is awarded annually to an undergraduate on the recommendation of the Department of Mathematics. It was established by an anonymous gift in honor of Anna Pell Wheeler, professor emeritus of mathematics and a member of the faculty of Bryn Mawr College from 1918 until her death in 1966. (1960)

### Scholarships For Medical Study

The following scholarships may be awarded to seniors intending to study medicine, after their acceptance by a medical school, or to graduates of Bryn Mawr intending or continuing to pursue a medical education. Applications for the scholarship should be made to the premedical adviser before March 15 preceding the academic year in which the scholarship is to be held. Applications for renewal of scholarships must be accompanied by letters of recommendation from instructors in the medical school.

*The Linda B. Lange Fund* was founded by bequest of \$30,000 under the will of Linda B. Lange, Class of 1903. The income from this fund provides the Anna Howard Shaw Scholarship in Medicine and Public Health, awarded on recommendation of the president and faculty to a member of the graduating class or a graduate of the College for the pursuit, during an uninterrupted succession of years, of studies leading to the degrees of M.D. and Doctor of Public Health. The award may be continued until the degrees are obtained. (1948)

*The Hannah E. Longshore Memorial Medical Scholarship* was founded by Mrs. Rudolf Blankenburg in memory of her mother by a gift of \$10,000. The scholarship is awarded by a committee of the faculty to a student who has been accepted by a medical school. It may be renewed for each year of medical study. (1921)

*The Jane V. Myers Medical Scholarship Fund* of \$10,000 was established by Mrs. Rudolf Blankenburg in memory of her aunt. The scholarship is awarded by a committee of the faculty to a student who has been accepted by a medical school. It may be renewed for each year of medical study. (1921)

*The Harriet Judd Sartain Memorial Scholarship Fund* was founded by bequest of \$21,033 under the will of Paul J. Sartain. The income from this fund is to establish a scholarship which is awarded to a member of the graduating class who in the judgment of the faculty needs and is deserving of assistance for the study of medicine. This scholarship may be continued for the duration of her medical course. (1948)

### Loan Funds

Bryn Mawr College administers two kinds of loan programs. The first consists of four funds established through the generosity of alumnae and friends of the College. Applications for loans must be accompanied by the Financial Aid Form prepared by the College Scholarship Service of the College Entrance Examination Board.

*The Students' Loan Fund of the Alumnae Association of Bryn Mawr College* was founded by the Class of 1890 to provide emergency funds for undergraduate and graduate students.

No more than \$1,000 may be borrowed by a student in any one year; the total for four years must not exceed \$3,000. Students who wish loans may obtain the application from the Alumnae Association or the Financial Aid Office. All students are eligible to apply for loans from this fund, whether or not they are already receiving financial aid from the College. However, the application must be approved by the director of financial aid, as well as a dean or faculty adviser. A letter of recommendation from the dean or the faculty adviser should be submitted with the application. Money is not usually lent to freshmen or to students in their first semester of graduate work.

While the student is in college, no interest is charged, and she may reduce the principal of the loan if she so desires. After the student leaves Bryn Mawr the interest rate is modest. The entire principal must be repaid within five years of the time the student leaves the College at the rate of twenty percent each year. Principal payments can be deferred if the student enrolls in graduate or professional school, although interest payments must be made.

*The Gerald and Mary Hill Swope Loan Fund* was established in 1945 under the following conditions:

- a. Non-scholarship students and graduate students are also eligible to apply for loans from this fund.

- b. Interest begins to accrue as of the date of graduation and the rate is set by the College. The entire principal must be repaid within five years of the time the student leaves college at a rate of twenty percent each year.
- c. Loans are awarded by the Scholarship Committees of the Undergraduate College, the Graduate School of Arts and Sciences, and the Graduate School of Social Work and Social Research.

*The Clareth Fund* was established in 1971 by a bequest to the College from the estate of Ethel S. Weil. The income only is to be used for students "specializing in economics or business."

*The Alfred and Mary Douty Loan Fund*, an expendable loan fund for student loans, was established in 1976 by an initial donation of \$5,000 from the trustees of the Alfred and Mary Douty Foundation. The fund will be augmented by a pledge from the foundation of \$22,500 to be paid through the years 1977 to 1983. Loans from this fund may be made to graduate or undergraduate students. Repayment of the principal of the loan begins nine months after graduation, withdrawal, or cessation of at least half-time study. The entire principal must be repaid within five years from the date the first payment becomes due at the rate of twenty percent each year plus interest of seven percent per annum on the unpaid balance.

The second kind of loan program, administered by the College, is based on government funds made available through the Perkins Loan Program. Applications for loans must be accompanied by the Financial Aid Form prepared by the College Entrance Examination Board. The five-percent interest rate and repayment of the loan begin six months after the student has completed her education.

Students who, upon graduation, teach on a full-time basis in public or private non-profit elementary or secondary schools in an economically depressed area as established by the Secretary of Education or who work with handicapped children are allowed cancellation of their debts at the rate of fifteen percent per year for the first and second years, twenty percent per year for the third and fourth years, and thirty percent for the fifth year, or total cancellation over five years.



*The Stafford Student Loan Program* is a government subsidized program which was instituted to enable students to meet educational expenses. Application is made through the student's home banks. An undergraduate student may borrow up to \$4,000 per year depending upon her year in college and her financial eligibility. Repayment begins six months after the student is no longer enrolled at least half-time in an accredited institution. The interest is currently eight percent. The government will pay this interest until the repayment period begins, if the student meets financial eligibility requirements.

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