Note: This document is no longer current, and has been archived on the Past Catalogs & Regulations page (www.haverford.edu/course-catalog/past-catalogs)

For the current version, please visit the Academic Catalog hub (www.haverford.edu/course-catalog)
# ACADEMIC CALENDAR

## Semester I (Fall 2016)

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday, August 24</td>
<td>First year and transfer students arrive</td>
</tr>
<tr>
<td>Saturday, August 27</td>
<td>Residence halls open for returning students</td>
</tr>
<tr>
<td>Monday, August 29</td>
<td>Classes begin at Haverford, Bryn Mawr, and Swarthmore; Registration begins</td>
</tr>
<tr>
<td>Friday, September 2</td>
<td>Last day to uncover Pass/Fail courses from previous semester</td>
</tr>
<tr>
<td>Monday, September 5</td>
<td>Labor Day—classes not in session</td>
</tr>
<tr>
<td>Wednesday, September 7</td>
<td>Final academic verification at Haverford and Bryn Mawr; Registration ends</td>
</tr>
<tr>
<td>Friday, September 16</td>
<td>Last day to request Pass/Fail, First Quarter courses only; Last day to drop a credit at Haverford and Bryn Mawr</td>
</tr>
<tr>
<td>Friday, October 7</td>
<td>Last day to request Pass/Fail, full semester courses only; fall break begins at 4:00 p.m.</td>
</tr>
<tr>
<td>Monday, October 17</td>
<td>Classes resume at 8:30 a.m.</td>
</tr>
<tr>
<td>Friday, October 21</td>
<td>First quarter classes end</td>
</tr>
<tr>
<td>Monday, October 24</td>
<td>Second quarter class begin</td>
</tr>
<tr>
<td>Friday, October 28</td>
<td>Faculty reports of concern to CSSP due; Petitions to CSSP due</td>
</tr>
<tr>
<td>Friday, October 28–30</td>
<td>Family and Friends Weekend</td>
</tr>
<tr>
<td>Monday, October 31</td>
<td>Pre-Registration for spring semester begins</td>
</tr>
<tr>
<td>Wednesday, November 2</td>
<td>Last day to drop second quarter class</td>
</tr>
<tr>
<td>Friday, November 11</td>
<td>Last day to request Pass/Fail, second quarter courses only</td>
</tr>
<tr>
<td>Wednesday, November 23</td>
<td>Pre-Registration for spring semester ends</td>
</tr>
<tr>
<td>Monday, November 28</td>
<td>Thanksgiving break begins at 4:00 p.m.</td>
</tr>
<tr>
<td>Friday, December 9</td>
<td>Classes end at Haverford; optional Reading Day; All papers (except those in lieu of exams) due</td>
</tr>
<tr>
<td>Saturday, December 10 – 11</td>
<td>Reading Period</td>
</tr>
<tr>
<td>Monday, December 12- 16</td>
<td>Final Examination Period</td>
</tr>
<tr>
<td>Friday, December 16</td>
<td>Semester ends at 12:00 noon; Final Examinations due at 12:00 noon</td>
</tr>
<tr>
<td>Tuesday, January 3</td>
<td>Final grades due in Registrar’s Office by 12:00 noon</td>
</tr>
</tbody>
</table>

## Semester II (Spring 2017)

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday, January 16</td>
<td>Martin Luther King Day; classes begin at Swarthmore</td>
</tr>
<tr>
<td>Tuesday, January 17</td>
<td>Classes begin at Haverford and Bryn Mawr; Registration begins</td>
</tr>
<tr>
<td>Friday, January 20</td>
<td>Last day to uncover Pass/Fail courses from previous semester</td>
</tr>
<tr>
<td>Wednesday, January 25</td>
<td>Final academic verification at Haverford and Bryn Mawr; Registration ends</td>
</tr>
<tr>
<td>Friday, February 3</td>
<td>Last day to request Pass/Fail, First Quarter courses only; Last day to drop a credit at Haverford and Bryn Mawr</td>
</tr>
<tr>
<td>Friday, February 24</td>
<td>Last day to request Pass/Fail, full semester courses only</td>
</tr>
<tr>
<td>Friday, March 3</td>
<td>First quarter classes end; spring break begins at 4:00 p.m.</td>
</tr>
<tr>
<td>Monday, March 13</td>
<td>Classes resume at 8:30 a.m.; second quarter classes begin</td>
</tr>
<tr>
<td>Friday, March 17</td>
<td>Faculty reports of concern to CSSP due; Petitions to CSSP due</td>
</tr>
<tr>
<td>Wednesday, March 22</td>
<td>Last day to drop second quarter class</td>
</tr>
<tr>
<td>Friday, March 31</td>
<td>Last day to request Pass/Fail, second quarter courses only</td>
</tr>
<tr>
<td>Monday, April 3</td>
<td>Pre-Registration for fall semester begins</td>
</tr>
<tr>
<td>Friday, April 14</td>
<td>Pre-Registration for fall semester ends; Major Declaration Forms due in Registrar’s Office; Returning students’ Financial Aid Applications due</td>
</tr>
<tr>
<td>Friday, April 28</td>
<td>Classes end at Haverford and Bryn Mawr; all papers (except those in lieu of exams) and lab notebooks due</td>
</tr>
<tr>
<td>Saturday, April 29–2</td>
<td>Reading Period</td>
</tr>
<tr>
<td>Monday, May 1–3</td>
<td>Senior Comprehensive Exams</td>
</tr>
<tr>
<td>Wednesday, May 3</td>
<td>Final Examination Period Begins</td>
</tr>
<tr>
<td>Saturday, May 6</td>
<td>Final Examinations for seniors due at 5:00 p.m.</td>
</tr>
<tr>
<td>Monday, May 8</td>
<td>Senior Grades due in Registrar’s Office by 5:00 p.m.</td>
</tr>
<tr>
<td>Friday, May 12</td>
<td>Semester II ends at noon; Final Examinations for Underclassmen due at noon</td>
</tr>
<tr>
<td>Saturday, May 13</td>
<td>Commencement at Haverford College–10:00 a.m.; Commencement at Bryn Mawr College</td>
</tr>
<tr>
<td>Friday, May 19</td>
<td>Final grades due in the Registrar’s Office by 12:00 noon</td>
</tr>
<tr>
<td>Friday, May 26–28</td>
<td>Alumni Weekend</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Calendar</td>
<td>3</td>
</tr>
<tr>
<td>Majors, Minors, and Concentrations</td>
<td>6</td>
</tr>
<tr>
<td>Number System and Symbols</td>
<td>7</td>
</tr>
<tr>
<td>The College</td>
<td>8</td>
</tr>
<tr>
<td>Statement of Purpose, Academic Leadership</td>
<td>8</td>
</tr>
<tr>
<td>Academic Regulations</td>
<td>9</td>
</tr>
<tr>
<td>Requirements for the Degree</td>
<td>10</td>
</tr>
<tr>
<td>Other Curricular Options to Fulfill the Degree Requirement</td>
<td>12</td>
</tr>
<tr>
<td>Academic Regulations</td>
<td>13</td>
</tr>
<tr>
<td>Special Academic Programs</td>
<td>21</td>
</tr>
<tr>
<td>Leaves of Absence</td>
<td>27</td>
</tr>
<tr>
<td>Department Descriptions and Course Listings</td>
<td>29</td>
</tr>
<tr>
<td>Africana Studies</td>
<td>30</td>
</tr>
<tr>
<td>Anthropology</td>
<td>34</td>
</tr>
<tr>
<td>Arabic (Tri-Co)</td>
<td>42</td>
</tr>
<tr>
<td>Arts Program at Bryn Mawr</td>
<td>43</td>
</tr>
<tr>
<td>Astronomy</td>
<td>58</td>
</tr>
<tr>
<td>Biochemistry and Biophysics</td>
<td>64</td>
</tr>
<tr>
<td>Biology</td>
<td>67</td>
</tr>
<tr>
<td>Chemistry</td>
<td>76</td>
</tr>
<tr>
<td>Classical and Near Eastern Archaeology at Bryn Mawr</td>
<td>86</td>
</tr>
<tr>
<td>Classics</td>
<td>96</td>
</tr>
<tr>
<td>Comparative Literature</td>
<td>103</td>
</tr>
<tr>
<td>Computer Science</td>
<td>112</td>
</tr>
<tr>
<td>East Asian Languages and Cultures</td>
<td>119</td>
</tr>
<tr>
<td>Economics</td>
<td>126</td>
</tr>
<tr>
<td>Education Program</td>
<td>134</td>
</tr>
<tr>
<td>Engineering</td>
<td>139</td>
</tr>
<tr>
<td>English</td>
<td>141</td>
</tr>
<tr>
<td>Environmental Studies (Tri-Co)</td>
<td>150</td>
</tr>
<tr>
<td>Film Studies at Bryn Mawr</td>
<td>155</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>162</td>
</tr>
<tr>
<td>French and Francophone Studies</td>
<td>170</td>
</tr>
<tr>
<td>Gender and Sexuality Studies</td>
<td>176</td>
</tr>
<tr>
<td>Geology at Bryn Mawr</td>
<td>179</td>
</tr>
<tr>
<td>German and German Studies</td>
<td>187</td>
</tr>
<tr>
<td>Growth and Structure of Cities at Bryn Mawr</td>
<td>191</td>
</tr>
<tr>
<td>Health Studies Minor</td>
<td>197</td>
</tr>
<tr>
<td>Hebrew &amp; Judaic Studies at Bryn Mawr</td>
<td>205</td>
</tr>
<tr>
<td>History</td>
<td>207</td>
</tr>
<tr>
<td>History of Art at Bryn Mawr</td>
<td>215</td>
</tr>
<tr>
<td>Independent College Programs</td>
<td>223</td>
</tr>
<tr>
<td>Italian and Italian Studies at Bryn Mawr</td>
<td>228</td>
</tr>
<tr>
<td>Latin American, Iberian &amp; Latino Studies</td>
<td>235</td>
</tr>
<tr>
<td>Linguistics (Tri-Co)</td>
<td>240</td>
</tr>
<tr>
<td>Mathematical Economics</td>
<td>245</td>
</tr>
<tr>
<td>Mathematics and Statistics</td>
<td>247</td>
</tr>
<tr>
<td>Middle Eastern and Islamic Studies</td>
<td>255</td>
</tr>
<tr>
<td>Music</td>
<td>258</td>
</tr>
<tr>
<td>Neuroscience Minor</td>
<td>265</td>
</tr>
<tr>
<td>Peace, Justice, and Human Rights</td>
<td>266</td>
</tr>
<tr>
<td>Philosophy</td>
<td>271</td>
</tr>
<tr>
<td>Physics</td>
<td>278</td>
</tr>
<tr>
<td>Political Science</td>
<td>285</td>
</tr>
<tr>
<td>Psychology</td>
<td>294</td>
</tr>
<tr>
<td>Religion</td>
<td>302</td>
</tr>
<tr>
<td>Neuroscience Minor</td>
<td>309</td>
</tr>
<tr>
<td>Russian at Bryn Mawr</td>
<td>311</td>
</tr>
<tr>
<td>Scientific Computing</td>
<td>315</td>
</tr>
</tbody>
</table>
MAJORS, MINORS, AND CONCENTRATIONS

Africana and African Studies (Bi-Co)*
Anthropology •
Arabic**
Arts: Dance, Theater, and Writing (BMC)** •
Astronomy •
Athletics**
Biochemistry and Biophysics*
Biology
Chemistry •
Classical and Near Eastern Archaeology (BMC)
Classics •
Comparative Literature (Bi-Co) •
Computer Science •
East Asian Language and Culture (Bi-Co) •
Economics •
Education and Educational Studies* •
English
Environmental Studies •
Film Studies (BMC)
Fine Arts
French and Francophone Studies •
Gender and Sexuality Studies* •
Geology (BMC)•
German and German Studies •
Growth and Structure of Cities (BMC) •
Health Studies (Bi-Co) •
Hebrew and Judaic Studies (BMC)* •
History
History of Art (BMC) •
Independent College Programs
Italian and Italian Studies (BMC) •
Latin American, Iberian, and Latino Studies* 
Linguistics (Tri-Co) •
Mathematical Economics* 
Mathematics and Statistics •
Middle Eastern and Islamic Studies* 
Music •
Neuroscience•
Peace, Justice and Human Rights* 
Philosophy •
Physics •
Political Science
Psychology •
Religion
Romance Languages (BMC)
Russian (BMC) •
Scientific Computing *
Sociology •
Spanish •
Writing Program**

*Area of Concentration
**Program
• Also includes a minor
NUMBERING SYSTEM AND SYMBOLS

001—009: elementary courses  
100—199: first-year and introductory courses  
200—299: second-year courses  
300—399: advanced courses  
400—499: special categories of work (e.g.) 480 for independent study courses

The following letters (following a number) indicate:
“a”: a one-credit course given in the fall semester  
“b”: a one-credit course given in the spring semester  
“c”: a one-credit course given throughout the year  
“d”: a half-credit course given September—October  
“e”: a half-credit course given November—December  
“f”: a half-credit course given throughout the first semester  
“g”: a half-credit course given February—March  
“h”: a half-credit course given April—May  
“i”: a half-credit course given throughout the second semester  
“j”: a half-credit course given throughout the year

Full-year courses (two credits) carry a numerical designation only. They must be carried through two semesters. In some cases, students may take one semester of such a course for credit, but only with permission of the chairperson of the department concerned.

The following designations refer to the distribution system for courses:

SO: fulfills a Social Science requirement  
NA: fulfills a Natural Science requirement  
HU: fulfills a Humanities requirement  
QU: fulfills the Quantitative requirement
THE COLLEGE

STATEMENT OF PURPOSE
Haverford College is committed to providing a liberal arts education in the broadest sense. This education, based on a rich academic curriculum at its core, is distinguished by a commitment to excellence and a concern for individual growth. Haverford has chosen to remain small and to foster close student/faculty relationships to achieve these objectives.

The College’s rigorous academic program is flexible in form and content to meet the needs of individual students, and rests on the assumption that the able students who come here will use their capacities fully. Haverford’s faculty is noted for its strength in both scholarship and teaching, and its members expect to transmit to students their enthusiasm and high standards. The faculty members are teaching at an undergraduate college of arts and sciences by choice and they expect to learn, as well as to teach, in this close relationship with undergraduates.

The full resources of the College, in and out of the classroom, are designed to promote the personal and intellectual growth of students. Through an ambitious program of visiting lecturers and cultural activities, a conscious effort to recruit faculty and students representing diverse backgrounds and perspectives, student self-governance and service programs, an athletic program focused on participation and the scholar-athlete, and through day-to-day living in a residential community, the College seeks to broaden and enrich each person’s development. Students are asked to give of themselves, even as they draw new strength from others. We seek to foster the pursuit of excellence and a sense of individual and collective responsibility throughout the entire environment.

Haverford strives to be a college in which integrity, honesty, and concern for others are dominant forces. The College does not have as many formal rules or as much formal supervision as most other colleges; rather, it offers an opportunity for students to govern their affairs and conduct themselves with respect and concern for others. Each student is expected to adhere to the Honor Code as it is adopted each year by the Students’ Association.

Haverford College, while a non-sectarian institution, has Quaker origins that inform many aspects of the life of the College. They help to make Haverford the special college that it is, where the excellence of its academic program is deepened by its spiritual, moral, and ethical dimensions. These show most clearly in the close relationship among members of the campus community, in the emphasis on integrity, in the interaction of the individual and the community, and in the College’s concern for the uses to which its students put their expanding knowledge.

For an interactive look at Haverford’s history, visit haverford.edu/about.

ACADEMIC LEADERSHIP
President
Kimberly Benston

Provost
Frances Blase

Dean of the College
Martha Denney

For detailed biographies and a full list of Senior Staff, please visit haverford.edu/president/governance/senior-staff.
REQUIREMENTS FOR THE DEGREE

Curriculum
Haverford is a liberal arts college, and its curriculum is designed to help its students develop the capacity to learn, to understand, to think critically, to make sound and thoughtful judgments and to contribute to knowledge. The Requirements for the Degree encourage the use of these skills in each of the broad fields of human knowledge and a fuller development of them in a single field of concentration.

Guidelines for a Liberal Arts Education
A liberal arts education requires a sense of the breadth of human inquiry and creativity. The human mind has explored the myriad facets of our physical and social environments; it has produced compelling works of art, literature, and philosophy. Every student is encouraged to engage a full range of disciplines—fine arts, the written word, empirical investigation, economy and society—in order to become a broadly educated person. As a step toward this goal, students must fulfill the following requirements:

First-Year Writing Requirement
As an essential tool for academic study, personal expression and civic life, writing deserves concerted attention in a liberal arts education. A one-semester writing seminar is a general degree requirement of the College, and must be taken by all first-year students. Writing seminars are courses that integrate writing instruction with intellectual inquiry into particular disciplinary or topical foci. They devote attention to strategies for performing critical analysis, constructing sound arguments, and crafting effective prose. WS-I (Writing Intensive) sections, taught in the fall semester, do not alone fulfill the writing requirement but serve as preparation for writing seminar courses in the spring semester. Students are advised to take other courses as well in which writing receives substantial attention.

Language Requirement
Competency in a language other than one’s own, ancient or modern, serves many ends. It deepens an appreciation of one’s own language and culture, increases sensitivity and understanding of the nature of language itself, enables the student to gain a far more intimate understanding of different cultures than is possible through translations, and allows greater participation in an increasingly global world. Further, with regard to specific disciplinary ends, many graduate programs require a reading knowledge of at least two languages other than English.

For these reasons, Haverford College requires all of its students to complete two semesters of college-level study of a language other than English by the end of the junior year. This requirement may be satisfied in one of the following three ways:
• One full year of language study in one language at the level in which the student is placed by the appropriate Haverford College language department; or
• Language study in a course conducted under Haverford College’s approved International Study Abroad Programs, and as certified in advance by the chair of the relevant language department at either Haverford College or Bryn Mawr College or by the Educational Policy Committee (EPC) when the language has no counter department at either Haverford or Bryn Mawr; or
• Language study in a summer program administered by Bryn Mawr College in the country of the language if that program is an intensive, total-immersion program, fully equivalent to a full year of language study and certified as such by the chair of a Haverford or Bryn Mawr language department.
Language courses may be taken at Haverford or at any of the cooperating colleges: Bryn Mawr, Swarthmore, and with adviser and registrar permission, the University of Pennsylvania. The Haverford department, however, must determine placement. Except as noted above, this requirement may not be fulfilled by language study in a summer school. One full academic year of language study is the minimum requirement, and language courses do not satisfy the divisional requirement.

Divisional Requirement
In addition to fulfilling the writing and foreign language requirements noted above, students are required to complete a minimum of three course credits in each of the three divisions of the curriculum: Humanities, Social Sciences, and...
Natural Sciences. At least two departments in each division must be represented, and one of the nine course credits must be quantitative as described below.

All courses taken Pass/Fail may be converted to a numerical grade if a student chooses to uncover the numerical grade on her/his transcript. Any course for which a numerical grade is recorded—even if initially taken Pass/Fail—may count towards the fulfillment of requirements in a student’s major, minor, or concentration; the quantitative requirement; the divisional requirement; and the language requirement.

Quantitative Requirement
Quantitative reasoning is an extremely important skill. The impact of science and technology in the modern world has been enormous. Today, those who lack the ability to apply elementary quantitative methods to the world around them are at a severe disadvantage. Therefore, students must successfully complete at least one course credit that focuses on quantitative reasoning. Quantitative courses provide experience in some of the following:

- Elementary statistical reasoning
- Other widely applicable types of mathematical reasoning
- Working with, manipulating, and judging the reliability of quantitative data
- Generating and understanding graphical relationships
- Representing theoretical ideas in mathematical language and using mathematics to obtain concrete numerical predictions about natural or social systems.

These and other courses that satisfy this requirement are indicated in the College course guide. The quantitative requirement must be fulfilled by the end of the junior year.

It is important to note again that all courses taken Pass/Fail may be converted to a numerical grade if a student chooses to uncover the numerical grade on her/his transcript. Any course for which a numerical grade is recorded—even if initially taken Pass/Fail—may count towards the fulfillment of requirements in a student’s major, minor, or concentration; the quantitative requirement; distribution requirement; and the language requirement.

Departmental Major Requirement
Each student must meet the requirements for a departmental or independent major program.

During the fourth semester of attendance, or earlier only in the case of transfer students, all students should confer with the chair of the department in which they wish to major and apply for written approval of a program of courses for their final four semesters. Such programs must provide for the completion, by the end of the senior year, of approximately 12 course credits or the equivalent, at least six of which must be in the major department and the others in closely related fields.

Students are accepted into major programs according to the following rules:

- Acceptance is automatic with an earned average of 2.7 or above in preliminary courses in the department concerned.
- Acceptance is at the discretion of the chair of the major department if the average in such courses falls between 2.0 and 2.7.
- Acceptance is rare but may be contingent upon further work in the department if the average falls below 2.0.
- A student who is not accepted as a major by any department will not be permitted to continue at the College.

Students who have been formally accepted as majors by any department have the right to remain in that department as long as they are making satisfactory progress in the major. Each student is expected to file with the registrar by the date specified in the academic calendar, a copy of his/her major declaration form signed by the chair of the major department. Haverford students may major at Bryn Mawr College on the same terms as those that apply to Bryn Mawr students and at Swarthmore College, with the proper permissions.

The College affirms the responsibility of each department to make the work in the major field as comprehensive as possible for the student. There is need, in the senior year especially, to challenge the student’s powers of analysis and synthesis and to foster the creative use of the knowledge and skills that have been acquired in previous studies. There is also the need to evaluate the performance of the senior in the major field, not only to safeguard the academic standards of the College, but also to help the student’s self-evaluation at an important moment. In short, synthesis and evaluation in some form are both essential and may be achieved by various means as specified by the major departments in their statement of major requirements:

- A senior departmental study course culminating in a comprehensive exam; or
● A thesis or advanced project paper; or
● A course or courses specially designed or designated; or
● Some combination of these or other means.

To avoid undue specialization in a major program, the College requires that at least 19 of the 32 course credits required for graduation must be taken outside of a student’s major field of study. For this purpose, courses that are cross-listed in several departments are considered to be outside the major field of study. There are four exceptions to this limitation:

● The limitation does not apply to certain majors at Bryn Mawr College;
● The limitation does not apply to majors in the Classics Department; and
● The limitation does not apply to those students who study abroad in programs, such as those at Cambridge or Oxford, where reading in one subject for the entire year is the norm.
● This limitation does not apply to double majors, but such students must still earn a certain minimum number of course credits outside the two majors. The number of course credits outside the majors will depend on the number of credits required for the double major.

Credit Requirement
To graduate from Haverford College, a student must complete successfully the equivalent of four years of academic work, or a minimum of 32 course credits. Eight of these 32 course credits must be taken on the Haverford College campus.

OTHER CURRICULAR OPTIONS TO FULFILL THE DEGREE REQUIREMENT

Pre-College Credits
Entering students should arrange to have advanced placement scores forwarded directly to the Office of the Registrar at Haverford College. The registrar will award one course credit for an AP score of 5 and one-half course credit for a score of 4. No credit is awarded for scores under 4. The maximum AP credit awarded to any student may not exceed four course credits.

Credits earned in summer school, in the Advanced Placement program, in “A” Levels, in the International Baccalaureate Program, the French Baccalaureate Program, the German Abitur, and the Swiss Maturité, or in college courses taken either before matriculation at Haverford or during the summers as a Haverford student will be recorded in such a way that the total for any one student does not exceed four course credits. Students should note that general education requirements are not satisfied by any such work, with the exception of summer credits earned during the student’s years at the College.

Special Majors and Double Majors
Students with a minimum cumulative grade point average of 3.50 may design an independent major. Such majors must have the approval of the Committee on Student Standing and Programs (CSSP). Furthermore, a member of the Haverford or Bryn Mawr College faculty must serve as the student’s adviser and also must agree to supervise the student’s senior project or thesis. Students interested in pursuing an independent major at Bryn Mawr College must still apply through Haverford’s Committee on Student Standing and Programs and not directly to Bryn Mawr College.

Students with a minimum cumulative grade point average of 3.50 may double major by completing the entire requirements of both majors, including thesis requirements. In order to double major, the student must obtain permission from the appropriate dean and the chairpersons of both departments. When deemed appropriate by the two departments, a single thesis may satisfy the thesis requirements of both majors. However, a single thesis submitted for a double major may not be used to reduce either the amount or quality of work typically required by each major program. The single thesis option may be undertaken only with the written agreement of both departments.

Areas of Concentration
Students are strongly encouraged to elect an area of concentration at the same time they declare a major: that is, during the fourth semester of attendance. As with the major, earlier elections are not permitted.

Areas of concentration exist at Haverford in order to afford students a formal opportunity to pursue an area of study distinct from, but relevant to, their choice of major. Students who undertake such study select their concentration courses from among the existing courses offered by corresponding departments, including the Department of Independent College Programs.

To fulfill an area of concentration, a student must normally complete six course credits selected with
the aid of a concentration coordinator who may consult with an advisory group for that concentration. Of the six course credits, no fewer than two and no more than three will also form part of the student’s major.

Haverford College currently offers the following areas of concentration: Africana and African Studies, Biochemistry and Biophysics, Computer Science, Education and Educational Studies, Gender and Sexuality Studies, Latin American, Iberian and Latino Studies, Mathematical Economics, Middle Eastern and Islamic Studies, Peace, Justice and Human Rights, and Scientific Computing. These are described in the Haverford College Catalog. A concentration in Creative Writing is available at Bryn Mawr College.

A concentration is not required for the Bachelor of Arts degree or the Bachelor of Science degree.

Minors
Disciplinary and Interdisciplinary minors, consisting of six to seven courses, are currently offered at Haverford College in the following fields: anthropology, astronomy, chemistry, Chinese, Classical Culture and Society, comparative literature, computer science, East Asian Studies, economics, Education and Educational Studies, Environmental Studies, fine arts, French, Gender and Sexuality Studies, German, Greek, Health Studies, Japanese, Latin, linguistics, mathematics, music, Neuroscience, philosophy, physics, psychology, Russian, sociology, and Spanish.

These are described under the entries for individual departments, programs and areas of concentration in the Haverford College Catalog (haverford.edu/catalog); minors offered at Bryn Mawr are described in the Bryn Mawr College Undergraduate Catalog (brynmawr.edu/catalog).

The minor is not required for the Bachelor of Arts degree or the Bachelor of Science degree.

As with majors, students may design independent areas of concentration (related to the major) or minors. These programs require the approval of the Committee on Student Standing and Programs (CSSP).

Physical Education Requirement
The physical education requirement does not carry academic credit but all students at Haverford are required to participate in the physical education program during their first two years of College in partial fulfillment of their degree.

For physical education purposes, the academic year is divided into four quarters. Students must complete six quarters of physical education, one of which is the “Intro to Fitness” class, prior to the start of junior year. “Intro to Fitness” covers a wide variety of material designed to provide students with the knowledge needed to incorporate fitness and proper nutrition into their lives at Haverford and beyond.

Varsity athletes who complete their in-season fitness workouts under the supervision of the Head Coach and Fitness Center Director will satisfy the “Intro to Fitness” requirement. Alternative methods to satisfy the physical education requirement are available for students with medical conditions preventing exercise.

ACADEMIC REGULATIONS
First-Year Program
The responsibility for knowing and meeting the applicable degree requirements as well as the academic regulations of the College rests with each student. If there are any questions regarding these regulations, they should be raised with the student's academic adviser or dean. Since the College requires that students be exposed to areas of knowledge and ways of thinking which may be new to them and which may radically change their ideas about their eventual majors, and since it is important that this diversified experience be gained early, the faculty strongly recommends that students take no more than one course in any department in either semester of the first year at Haverford. For the same reasons, sophomores are strongly encouraged to take no more than two courses simultaneously in any one department.

Registration and Course Load Policies
Detailed information concerning registration is issued by the Registrar’s Office each semester. Registration deadlines for courses offered at Haverford and Bryn Mawr are generally the same. However, there are different registration deadlines and procedures for courses offered at Swarthmore and the University of Pennsylvania.

Students normally register for four course credits per semester, but since exceptions to this general rule exist, they may arrange their programs with some flexibility. With consent of their advisers,
students may enroll or pre-enroll for five credits in a given semester, or more than five credits with the approval of both their adviser and their dean.

Students who wish to carry fewer than four credits in a semester but do not have sufficient extra credits by the end of that semester to be on schedule to graduate in the maximum of four years (eight semesters) of study must seek approval from their deans. In order to maintain campus housing privileges, students must enroll for a minimum of three credits in any given semester regardless of whether they are on or ahead of schedule to graduate in the maximum of four years of study.

Students permitted a credit overload or an underload during any given semester must pay full tuition, regardless of the number of credits taken.

Students are expected to achieve the following in order to make satisfactory progress toward the degree and be advanced to the next grade level:

- End of first year: 8.0 course credits
- End of sophomore year: 16.0 course credits
- End of junior year: 24.0 course credits, full senior standing
- End of senior year: 32.0 course credits and fulfillment of all other requirements for the degree.

**Pass/Fail Option**

A student carrying at least four course credits in a semester may elect to take up to one course credit Pass/Fail. The grade entered on the transcript for a course taken Pass/Fail will be a “P,” if passed, and a “0.0,” if failed; a failing grade will be automatically factored into the student’s cumulative GPA, whereas a grade of “P,” if left uncovered, will have no impact on a student’s GPA. The Pass/Fail option exists to encourage students to take intellectual risks and to explore new and challenging areas of study without an overriding concern that such a move may have a deleterious effect on her/his GPA.

To take a course Pass/Fail, a student must inform the registrar, using a form obtainable from the Registrar’s Office, by the end of the third week of classes for quarter courses and by the end of the sixth week of classes for full-semester courses. The student must obtain approval from his/her adviser. When the instructor of the course is the student’s adviser, the student must obtain approval from his/her dean.

All courses taken Pass/Fail may be converted to a numerical grade if a student chooses to uncover the numerical grade on her/his transcript. Any course for which a numerical grade is recorded—even if initially taken Pass/Fail—may count towards the fulfillment of requirements in a student’s major, minor, or concentration; the quantitative requirement; distribution requirement; and the language requirement.

Students have the option to convert the Pass/Fail designation to a numerical grade upon application to the registrar no later than the end of the first week of classes of the following term.

Additional limitations upon the Pass/Fail option:

- Neither the Freshman Writing Seminar nor courses taken on Haverford’s approved international academic programs may be taken Pass/Fail.
- A course for which a student records a “P” counts only towards the requirement for cumulative course credits. This course may not fulfill any requirement in a student’s major, minor, or concentration; the quantitative requirement; distribution requirements; the language requirement; or any other requirements.
- Students wishing to take courses Pass/Fail at Bryn Mawr, Swarthmore and the University of Pennsylvania must follow Haverford College procedures by filling out the appropriate form and submitting it to the Haverford Registrar by the appropriate deadline.
- Students may register for a cumulative total of four Pass/Fail course credits over the course of their careers at Haverford. Every course taken Pass/Fail will count toward the total four Pass/Fail course-credit allowed to each student, even if a numerical grade is subsequently recorded.
- Courses in which the instructor decides to use the Pass/Fail option for all students are not included in the semester or cumulative limit.

**Course Changes**

Course changes may be made during the first seven class days of any semester. Thereafter, such changes are permissible only if a student’s dean and academic adviser grant their written approval to do so and the student has given the registrar requisite notice, by filing an add/drop form, by the end of the third week of classes.
Penn Master’s and the Bachelor’s at Haverford. (Note that through the “Quaker Consortium,” Penn will not charge current Haverford students tuition and fees for taking courses as undergraduates.)

All admitted 4+1 students are fully expected to graduate and receive their Bachelor’s degree from Haverford at the end of their fourth year at Haverford. If this is not achieved, the student will be dropped from the Master’s degree program at Penn Engineering. In the fifth and final year of the 4+1, students will be enrolled as full-time Master’s degree students in Penn Engineering, having fully completed their undergraduate degree at Haverford. During this year, the student will complete the remainder of the courses required by their specific Master’s degree program. The total number of courses for an engineering Master’s is 10 (11 in Biotechnology). The student will be financially responsible for all tuition and fees in the fifth year (Penn Engineering Master’s tuition and fees are charged by the course).

Interested students should consult their adviser and the program’s adviser for the 4+1 as early as possible. For more information, visit: haverford.edu/engineering/upenn/

3/2 Engineering Program
Haverford College and the California Institute of Technology (CalTech) have a joint program under which a student who is interested in engineering may, in the first semester of his/her junior year, apply for transfer to an engineering program at CalTech. If accepted in the program, then at the end of five years (three at Haverford, two at CalTech), the student will be awarded a Bachelor of Arts or Bachelor of Science degree by Haverford and a Bachelor of Engineering Degree by CalTech. For each engineering discipline, there is a required set of courses to be taken at Haverford during the first three years of the program. Interested students should consult their adviser and the College’s adviser for the 3/2 program about the proper course selection; this consultation should occur as early as possible. A cumulative grade point average of 3.5 is generally expected for this program.

For more information, visit: haverford.edu/engineering/caltech/

3/2 City Planning Program
Haverford students majoring in the Growth and Structure of Cities at Bryn Mawr College may apply for admission to the 3/2 Program in City Planning offered in conjunction with the University of Pennsylvania. This arrangement with the University of Pennsylvania’s Department of City and Regional Planning allows a student to earn both a Bachelor’s degree in the Growth and Structure of Cities at Bryn Mawr and a Master of City Planning (MCP) at the University of Pennsylvania in five years. Qualified students who are accepted into the 3/2 program will be eligible for consideration for financial aid during their period of residence at the University of Pennsylvania. Students interested in the 3/2 B.A./M.C.P. program may apply through their Cities major adviser during their sophomore or junior years, although they are encouraged to begin discussing their interest with members of the Cities Program as early as the beginning of their sophomore year.

4+1 Bioethics Program with the University of Pennsylvania
Haverford students can earn a Bachelor of Arts or Bachelor of Science degree from Haverford and a Master’s in Bioethics (M.B.E) from Penn’s Bioethics Program in the Perelman School of Medicine in five years.

This 4+1 partnership enables qualified Haverford undergraduates to gain early and expedited admission into a Master’s degree offered by the Penn Department of Medical Ethics and Health Policy. Students may apply to the M.B.E program as an external “sub-matriculate” no later than the end of the summer after the sixth semester at Haverford and no earlier than the end of the fourth semester. A GPA of 3.5 is required to apply; the GRE is not required. The admissions decision is based on the student’s transcript and letters of recommendation from one or more Haverford faculty members.

Upon acceptance to the program, students will take up to three graduate courses in Bioethics at Penn while still enrolled at Haverford; course selection is subject to approval by the M.B.E program’s director of education. There is no additional financial charge for these courses. During the four years at Haverford, students will also complete all graduation requirements, which can include courses taken at Penn as determined by Haverford’s Health Studies director.

The fifth year of the program is spent entirely at Penn. Nine courses in all (including those taken while a Haverford undergraduate) are required to
Repeating Courses
Students may not count among the 32 course credits required for graduation any course that substantially repeats the content of another course already completed, even though the course numbers may suggest an advancing sequence.

Laboratory Courses
In cases where courses are comprised of a lecture and an accompanying laboratory, students must attend lectures and labs and satisfy all assignments relevant to both in order to earn credit toward graduation.

Independent Study Courses
Many departments offer independent study courses to encourage independent work by qualified students. These courses provide opportunities to investigate topics not covered in formal courses, do extensive reading on a subject, do fieldwork, or engage in library research. Students wishing to undertake independent study must secure permission for the project from their adviser and from a faculty member willing to supervise the work prior to registering for the course. Members of the faculty are under no obligation to supervise independent study courses. Such courses done without faculty supervision will not be given college credit. The course requirements for independent study are determined jointly by the instructor and the student. Students may register for up to one credit of independent study per term.

Course Intensification
The College believes that experience in a wide diversity of courses is an essential part of a Haverford education, but the College also recognizes that students may sometimes profit from the opportunity to work more intensively in a smaller number of subjects. Therefore, with their adviser’s approval and the instructor’s permission, students may register for double credit in one course and, in unusual cases, in more than one course.

In a double-credit course, students undertake an approved program of independent work in conjunction with a regular course and submit a paper or pass an examination based on the independent work. Such work is not suitable in all subjects; the instructor of the course must be the final judge of whether it should be attempted.

Year-long Courses
Ordinarily, full-year courses must be carried through two semesters for a student to receive any credit. In some cases, a student may receive credit for one semester without taking the other, but only with the permission of the chairperson of the department. Departmental permission must be in writing on a form obtained from the registrar. In no case, though, may a student receive credit for the first semester of an introductory modern language course without satisfactorily completing the second semester.

Auditing a Course
Students who wish to audit a course should obtain permission from the instructor. There are no special charges for auditing and such courses are not listed on the student’s transcript.

Course Limits at Cooperating Institutions
Students may enroll in courses at Bryn Mawr College, Swarthmore College and the University of Pennsylvania. At Penn, however, Haverford students are limited to two course credits per semester. Students should note that courses at Penn will be approved by the student’s adviser and the registrar only on a space-available basis, and only for courses not offered on a regular basis at either Haverford or Bryn Mawr. Scheduling conflicts are not considered adequate reasons for seeking admission to courses at the University of Pennsylvania.

A senior electing to take a year-long or a second semester course at either Swarthmore, Penn or, with permission, at any other college or university, is responsible for verifying before the class begins that the instructor will submit a final course grade to the Haverford registrar by 5:00 p.m. on the day that senior grades are due, as indicated in the academic calendar. If the final grade is not submitted by that date and time, and the course is required for graduation, the senior should not expect to graduate until the following May.

Continuing Students
Students who intend to continue at Haverford College must complete registration during the time designated in both the academic calendar and on the instructions for registration. If students do not register on time and do not receive permission from their deans to delay registration, it will be assumed that they are not returning to Haverford. In such cases, their enrollment, financial aid, and housing, if any, will be considered available for assignment to others.
Additionally, there is a late registration fee of $25.00 for each approved registration that is filed after the appropriate deadline, and a late verification fee of $25.00 for late course confirmation. These fees apply to all students registering in Haverford courses, regardless of their home institution.

**Grading**
The following numerical grades are awarded at Haverford College:

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<tr>
<th>Grade</th>
<th>Description</th>
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<tbody>
<tr>
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<tr>
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<td>A-</td>
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<td>1.0</td>
<td>D</td>
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<tr>
<td>0.0</td>
<td>F</td>
</tr>
</tbody>
</table>

In addition to the numerical grades issued at Haverford, the following letter grades may also be used:

- **CIP**: Course in Progress - Grade added at the end of second semester;
- **P**: Pass in a Haverford Pass/Fail course;
- **INC**: Approved Incomplete;
- **W**: Approved Withdrawal;
- **NGR**: No Grade Reported - Grade awarded at end of full-year course;
- **NC**: Fail/No Credit in a Bryn Mawr or Swarthmore

**Grading Regulations**
A course may not be counted toward a student’s major requirement if the grade earned is below 2.0.

A grade of CIP may be submitted at the end of the first semester for senior research courses conducted throughout the year and for certain other courses agreed upon by the instructor, and announced at the beginning of the course.

If a student’s attendance is unsatisfactory or his/her conduct in the classroom is disruptive, the instructor can meet with the student to discuss the problems, but must send him/her a written notice, a copy of which goes to the student’s dean, specifying the reasons for the instructor’s concern and warning that any repetition of such conduct will result in being dropped from the course, resulting in a failing grade (0.0). No student may be involuntarily dropped from and failed in a course for failure to attend or to conduct him/herself suitably in the classroom unless the instructor has previously sent such prior notice with a copy to the student’s dean. The instructor must present the student’s dean with a formal notification that the conduct has persisted or has renewed. Except in cases in which students must participate in group projects or are in a class in which they must critique each other’s work as an inherent part of the course (as in seminars or freshman writing courses), failure to meet deadlines is not grounds for dropping a student from a course; in such instances, instructors should accordingly penalize students for lateness in grading. Policies regarding late work, and subsequent grade deductions, should be clearly stated in the course syllabi or some other formal document distributed to students in advance of assignments to be graded.

If a student is permitted to withdraw from a course by a dean for unusual reasons—normally those beyond the student’s control, most typically illness—the grade recorded is W. Students may not withdraw from a course after the last day of class.

Semester, yearly, and cumulative averages are based upon Haverford, Bryn Mawr, Swarthmore, and the University of Pennsylvania numerical grades only, and only during the academic year (September through May). All other work is regarded as transfer credit, including courses taken through Haverford’s approved International Study Abroad programs, summer courses (including those taken at Bryn Mawr and the University of Pennsylvania), and all credit granted for advanced placement, the International and French Baccalaureates, the German Abitur, the British “A” Levels, the Swiss Maturité, as well as those courses taken at colleges and universities in the United States and abroad. Course credit may be granted for this academic work, with appropriate grades (C or higher for college credit, B or higher for “A” Levels), and with appropriate scores for all ungraded work, but grades will not
appear on the Haverford transcript, nor will the grades or scores earned become a part of any Haverford student’s cumulative grade point average.

The grade of 0.0 (failure) will be given for any course for which no grade is reported on time, or for which an Incomplete (INC) is reported without duly submitting previously-approved supporting documentation to the registrar.

When an INC is granted, a final date for completing the course must be specified. Failure to complete the course by the specified date will result in a failing grade (0.0). Some students who fail a course because they do not complete the work or those who withdraw from a course may still wish to see the work from the course through. In such cases, the student has two options: he/she may pursue the work because it is interesting and not for credit or a grade. Alternatively, the student might approach the same instructor with whom the course was taken and ask if he/she would sponsor and grade the work during the next semester. The record would then show a grade of 0.0 or W for one semester and a grade reflecting successful completion in the second semester.

Requests for Changes in Grades
Students who believe they have sufficient reason to request a grade change must inform the instructor of their request within two weeks of the receipt of grades at the end of each semester. If the instructor believes the grade recorded is too low or too high, the grade will be changed.

Disputed Grades
A student who believes that the grade submitted by the instructor in a course is wrong, and who fails to convince the instructor of an error, may appeal the case to the chair of the department concerned. If the chair cannot be persuaded, the next (and final) appeal is to the provost of the College. Students should consult their deans before entering upon such a course of action. They should recognize, moreover, that Haverford subscribes to the principle of academic freedom for its faculty, in light of which the provost is ordinarily unable to authorize a change of an instructor’s grade. Thus, the principal value of an appeal to the provost is a possible identification of a pattern of inequities, in which case an investigation into the facts of the matter would be undertaken.

Finally, a student who receives a low grade on an examination, because of special circumstances such as illness, may petition the instructor and the Dean of the College for a special examination. If the request is granted, the grade for the special examination will replace the grade originally earned in the examination. In computing the final grade in that course, the new course grade will replace the old one on the student’s transcript, and the semester average will be revised accordingly. To invoke a review under this provision, the student must have notified the instructor immediately after stopping work on the examination, giving details to support the request for a special examination.

Deadlines
All required work in a course is due at the times specified by the instructor, but in no event later than the dates specified in the academic calendar.
● All written work in courses, except final examinations or papers in lieu of final examinations, is due by the last day of classes for that semester.
● Final examinations (including take home final examinations) and papers in lieu of final examinations are due on the last day of the examination period for that semester.

Incomplete (INC)
Incompletes for course work not completed by the last day of the examination period for that semester are granted only in cases of illness or when other extenuating circumstances of the most compelling nature are involved. A student who wishes to request an incomplete should secure the appropriate form from the registrar and, if the instructor approves the request, specify on the form the work to be done and the final submission date. The form should then be submitted to the student’s dean for final approval.

To have an incomplete processed by the registrar, a student must follow the procedures outlined above. Ad hoc arrangements or commitments contrary to the regulations herein described or any arrangements to which the student’s dean has not been a consenting party will not be honored. It should be noted, finally, Haverford’s procedures and deadlines for Incomplete differ from Bryn Mawr and Swarthmore Colleges and the University of Pennsylvania. Students are obliged to know and follow the rules regarding Incomplete at these institutions.
ACADEMIC YEAR  2016-17 INCOMPLETE DEADLINES

Semester I
Incomplete work is due no later than
Friday, January 6, 2017.

Semester II
Incomplete work is due no later than
Friday, June 2, 2017.

The course instructor has jurisdiction over requests for extensions to complete assignments or permission to schedule make-up examinations during the semester (i.e., up to the last day of final examinations). A student who wishes to make such a request should speak directly with the appropriate instructor. No form is required.

Class Attendance
As a general rule, students are expected to attend classes unless excused. In some courses, class attendance is a requirement for satisfactory completion of the course. Lack of attendance in some cases may be grounds for dropping the student and assigning a failing grade. It is the student’s responsibility to learn from the instructor how class attendance will be regarded in each course.

Graduation Honors
Honors at graduation are awarded to students who have undertaken and completed academic work of high quality. There are two types of graduation honors:

- Departmental honors, awarded by the academic departments.
- College honors, awarded by the College.

Departmental Honors
The exact nature of departmental honors work and the criteria used in judging it are listed in the departmental statements in the College Catalog and on the appropriate departmental web pages. For such honors, the work in the department must be considerably superior to that required for graduation, including a demonstration of the student’s competence, insight, and commitment to the field of interest. Individual departments may award honors to students whose departmental work has been of high quality, and high honors to those who have demonstrated both high quality and originality, indicating an unusual degree of competence.

College Honors
The Committee on College Honors and Fellowships will consider all students whose overall performance is exceptionally high for the following college honors awarded at Haverford College: cum laude, magna cum laude or summa cum laude.

Whereas distinguished performance in the major is the criterion for departmental honors, college honors recognize students whose work has been outstanding throughout their college career. In considering candidates for magna and summa cum laude, special attention is given to study that goes beyond the requirements of the major. Such study can be interdivisional, as evidenced by superior work outside one’s major division; interdisciplinary, as evidenced by superior work in more than one department of a single division; by superior work in several converging domains of knowledge represented by an area of concentration or the equivalent; or, by other evidence of superior work beyond the requirements of the major and the College. Both magna cum laude and summa cum laude are awarded by the faculty on recommendation of the Committee on College Honors and Fellowships. Summa cum laude is awarded to students of exceptional merit.

All students who have earned GPA’s in the top 30% of the graduating class, and who are not awarded magna cum laude or summa cum laude, will be awarded cum laude.

Residency and other Requirements for the Degree
Students, other than transfer students, may arrange for reduced programs of six or seven semesters by taking advantage of several options:

- They may take five course credits per semester instead of the normal load of four.
- They may use up to four course credits earned in combination of approved pre-Haverford study, including approved summer study at other institutions while a student at Haverford; or
- They may study at another American college or university or at a Haverford-approved program abroad for a semester or a year.

It is important to note that any combination of options will need to provide for a minimum of six semesters in residence at Haverford College and at least 24 Haverford course credits. Such Haverford
course credits must be taken at Haverford or any of the three cooperating institutions—Bryn Mawr College, Swarthmore College, or the University of Pennsylvania—during the academic year, of which a minimum of eight course credits must be taken on the Haverford campus. In the cases of transfer students, decisions about residence and credit requirements are made by the deans, but transfer students must complete a minimum of 16 Haverford course credits and four semesters in residence to be considered for a degree at the College.

Note that the seven-semester option allows the possibility of studying abroad for one semester, while the six-semester option does not. See also the Academic Flexibility Program.

**Monitoring Academic Performance**
The Committee on Student Standing and Programs (CSSP), a standing committee of the faculty, is composed of at least two faculty members appointed by Academic Council, three students (one of whom must be a sophomore) appointed by Students’ Council, the director of multicultural affairs, and one dean, who serves as executive secretary.

The Committee is charged with reviewing students’ academic performance in consultation with their deans and, if necessary, with members of the Athletics department, the Admission office, and (to the extent consistent with confidentiality) the Counseling and Psychological Services (CAPS) staff. CSSP relies on the faculty to convey notes of concern to the deans of those students in their courses who are experiencing academic difficulty. The Committee reviews these faculty reports as needed, but most typically at the middle of each semester and sends letters to some students apprising them of the concerns, urging them to consult with their advisers, counselors, deans, and instructors, and recommending, where appropriate, that they make use of the College’s peer tutoring system, the Office of Academic Resources, and other academic support resources.

In dealing with academic deficiencies, CSSP has broad authority to set requirements for a student’s continued enrollment, most notably by placing him/her on one of several levels of “Academic Warning” (probation) or requiring him/her to take a College Leave for a minimum of one year; such decisions are typically made at the end of each semester but may be made at any point deemed advisable by the Committee. The Committee has full latitude to place a student on College Leave even if the student has not previously been placed on Academic Warning.

Students are accountable to themselves and to the College (as embodied in the Committee) for the use to which they put both their talents and the resources of the College. Each case that comes before the Committee is treated individually within the context of College policy, and from this perspective, accountability means that some students who perform poorly but manage to pass their courses may still be placed on College Leave and ones who are failing may, on occasion, be permitted to continue. However, although CSSP may permit students who fail some of their courses to continue at the College, the Committee must first be convinced that there is a high probability that such students will do work that is at least consistently adequate in the immediate future.

When CSSP is considering the possibility of placing a student on College Leave, it will postpone making its final decision until it has held a second meeting, known as a “Drop Hearing.” Such hearings typically happen at the end of January, immediately prior to the spring semester, and in early June in response to spring semester grade reports, but the Committee may hold Drop Hearings at any point in the calendar year. Students who are summoned to such hearings but not placed on College Leave will typically be placed on Very Strict Academic Warning.

The student will be invited to appear before the Committee during a Drop Hearing and will be permitted to attend the hearing in the company of an academic adviser or other faculty member solely to provide moral support; such a “support person” may not address the committee or serve as an adviser to the student during the course of the hearing. If the student does not appear, the Committee will make a decision in the student’s absence and will inform him/her of its decision in writing. Since a Drop Hearing is intended to be a dialog, the Committee will not entertain written statements from students summoned to such hearings.

Students placed on College Leave may appeal the Committee’s decision to the President of the College on procedural grounds only. Appeals must be in writing, must state the grounds for the appeal, and must be received by the President.
within 72 hours of the student’s Drop Hearing. The following are the procedures of a Drop Hearing:

- The Committee will send the student notification of the Committee’s decision to hold a Drop Hearing 3-5 days before the hearing.
- The student will be given an opportunity to speak to the Committee during the hearing.
- At least one student, one faculty member, and one dean will be present at the hearing and will constitute a quorum.
- The student will be apprised of the Committee’s decision immediately after it is made.

Second-semester seniors should note that simply meeting the College requirements and accumulating 32 credits is not necessarily sufficient to ensure graduation. For example, the Committee (which reviews all senior academic records before the faculty votes on granting of degrees each spring) may decide that a student who has failed two out of the four courses in which he/she was enrolled in the eighth semester may not be permitted to graduate even though he/she has the 32 credits required for graduation. Similarly, seniors who fail courses in their major may be judged to have failed to meet the academic standards of the College and may not be permitted to graduate even if they have successfully completed the required number of courses and satisfied all general education requirements.

SPECIAL ACADEMIC PROGRAMS

Intercollegiate Cooperation
Haverford has long enjoyed a close cooperative relationship with Bryn Mawr College and Swarthmore College. This consortial relationship gives students from all three colleges access to courses and to most of the academic facilities on the three campuses. As a consequence, students at all three colleges have the advantages offered by a small college, together with the academic resources of a much larger, combined institution. The major programs of Bryn Mawr and Haverford Colleges are open equally to all students on both campuses. In some cases, Haverford students may also major at Swarthmore College.

In addition to the cooperative agreement with Bryn Mawr and Swarthmore, Haverford has made arrangements with the University of Pennsylvania, and full-time Haverford students are permitted to have library privileges and, upon presentation of the proper credentials, to enroll for courses there without added expense. Laboratory fees, which are not included under the reciprocal agreements with Swarthmore College or the University of Pennsylvania, must be paid by the student. Students taking courses at the University of Pennsylvania must make their own transportation arrangements, and are limited to two courses per semester at Penn.

Each student must satisfy Haverford’s general college graduation requirements, but is otherwise free to choose from the courses and other academic opportunities offered at its three partner institutions. If a student majors at Bryn Mawr or Swarthmore Colleges, it will be so noted on their academic records. Students may not major or minor at the University of Pennsylvania.

Haverford students are obligated to satisfy the academic regulations (e.g., regarding deadlines, attendance, extensions) at Bryn Mawr, Swarthmore, and the University of Pennsylvania when they are taking courses at such institutions. Administrative interpretations of each institution’s academic regulations are made by the deans of the college where the course is given.

Academic Flexibility Program
The Committee on Student Standing and Programs (CSSP) is empowered to make decisions on requests from students for exceptions to the academic regulations of the College. Typically, requests for exceptions involve unusual circumstances and relate to such issues as special majors and graduation in six or more than eight semesters. Students who intend to petition the Committee should first consult with their dean and their academic adviser.

Petitions should be submitted in writing to CSSP by the deadlines noted below; failure to meet these deadlines may result in a delay in the consideration of a petition until the following semester.

For Semester I of the 2016-17 Academic Year: **Friday, October 28, 2016**

For Semester II of the 2016-17 Academic Year: **Friday, March 17, 2017**

Petitioning students should note that their adviser’s and dean’s approval does not guarantee that CSSP will grant their request. If the Committee does not approve his/her proposal, the...
student, under rare circumstances, may appear in person to appeal its decision.

In addition to petitions for independent and interdepartmental majors, the following are examples of some of the academic program options that students may pursue only with the approval of CSSP.

Credit for Non-Collegiate Academic Work
All students must earn at least 24 course credits at Haverford, Bryn Mawr, Swarthmore Colleges or the University of Pennsylvania. However, it is recognized that there are important educational opportunities for a student to do work, for example, in a non-university research laboratory, to do a supervised archaeological study on site, etc., for which the College will occasionally grant academic credit. With the approval of CSSP, a student may take up to four course credits in their academic undergraduate career, provided the following conditions are met:

- The work is closely supervised by a person who is a faculty member at a college or university or who clearly holds the comparable qualifications.
- The student’s academic adviser approves the activity. If the work is in an area outside the adviser’s field, approval will also be required from a Haverford faculty member competent in a relevant field.
- The project results in a product judged to be satisfactory by the field supervisor and the Haverford faculty member.
- In most cases, the work is unpaid.

For each Haverford course credit earned in this manner, a student will be charged tuition at the rate of $6,320 per course credit. If credit is granted for such work by another academic institution, the credit may be transferred to Haverford without further tuition charges. Before credit can be transferred, however, the procedures for approval as outlined above must be followed.

Graduation in Fewer than Eight Semesters
A student may, in consultation with his/her dean, and with the approval of his/her academic adviser and the Committee on Student Standings and Programs (CSSP), select a six-semester program consisting of at least 30 course credits, including up to two approved AP credits or summer courses. Because of the college residency requirement, this program is not compatible with international study. A student for whom a six-semester program has been approved must, by April 15 each year, confirm to his/her dean in writing that he/she intends to continue in this program.

Students may also meet the normal requirements of 32 Haverford approved course credits but do so in only seven semesters of study by enrolling for five course credits for four semesters and for four course credits for three semesters. This option will allow students to spend a full semester away from the campus at some time during their college careers and still graduate within four years of matriculation. Although there is no deadline for declaring seven-semester programs, and students do not need the approval of CSSP to exercise this option, an early declaration of the intention to graduate in seven semesters will be helpful to both the student and the College. Students considering this option are therefore urged to consult their dean as early as possible.

Extended Programs
Although most students are expected to graduate in four academic years, some may be permitted to remain at Haverford for an additional, ninth semester to complete their degree requirements. Such permission is granted very rarely, upon petition to CSSP, and only in instances in which a student has no other means by which to complete his/her degree (typically due to the need to take courses in satisfaction of a major that can be fulfilled only while at Haverford). CSSP’s permission to continue for a ninth semester has no bearing on financial aid decisions, and the College never grants a tenth semester except in instances in which the Office of Access and Disabilities Services has deemed it necessary to do so pursuant to the Americans with Disabilities Act.

International Study
Upon request, qualified students in good academic and disciplinary standing may be granted permission to spend a semester or a year studying in a foreign country. The College recognizes approximately 70 programs in 34 countries. Students interested in studying abroad should consult the Dean of Global Affairs early in their sophomore year, and should have a GPA of at least 3.0

Students who wish to study abroad and receive Haverford credit may do so by applying to any of the programs on the approved list. They must complete the appropriate forms by the specified deadlines and should discuss their program and course selections with their major, minor, concentration adviser(s). Courses taken while...
studying on approved programs count toward fulfilling major, minor and concentration requirements as well as College degree requirements.

Monitored by the College’s Educational Policy Committee (EPC), the list of approved programs “provides opportunities that both extend and complement the offerings of Haverford departments and answer the specific needs and wishes of the students.” According to EPC policy, students who do not request and receive permission to study abroad through the International Academic Programs Office will not receive Haverford credit for their work. EPC will not consider retroactive proposals under any circumstances. Students who do not wish to pay Haverford tuition and/or receive credit may not attend the programs on the approved list.

In the rare case where a student may wish to receive credit for a program not on the approved list, he or she may petition to add the program to the list by using the following procedure:

- Collect all pertinent information about the program, including catalogs, course descriptions, modes of evaluation of academic performance, syllabi, reading lists, and faculty CVs.
- Present the written proposal and materials to Dean of Global Affairs one year in advance—March 1 for spring programs, November 1 for fall programs. The deadlines are firm.
- If the program is commensurate with the programs on the approved list, the student must prepare a petition for consideration by EPC. This petition must explain why the existing approved programs do not fulfill the student’s academic needs, and how the proposed program does so.

A statement from the student’s faculty adviser endorsing the program and explaining how it complements the work of the major or the concentration must accompany the petition. The department must provide a list of approved courses fulfilling major requirements. If the work is outside the student’s major, a statement from a member of the faculty who is familiar with the program will also be required. Petitions are forwarded to the Student Study Abroad Advisory Board and the International Academic Programs Faculty Advisory Board for consultation. In order to ensure the quality of programs on the list, an on-site evaluation by a Haverford faculty member will be required before approval is granted.

Faculty members who wish to add programs follow similar procedures.

Financial Aid

Haverford College meets the needs of students eligible for financial aid, whether they are at Haverford or on approved study abroad programs. Students can apply their financial aid awards, including their Haverford grant funds, toward their approved program abroad. More information may be found at: haverford.edu/studyabroad/financial_aid/

4+1 Engineering Program

Haverford College and the University of Pennsylvania have formed a partnership that enables qualified Haverford undergraduates to gain early and expedited admission into a Master’s degree offered by Penn Engineering. Like Penn Engineering undergraduates, Haverford students may apply to an appropriate Master’s degree program at Penn Engineering as an external “sub-matriculate.”

To initiate the process, a Haverford student submits a completed “External Sub-matriculation Application” to Penn Engineering for review and approval. Applications should be submitted no later than the end of the summer after the student’s sixth semester at Haverford, and no earlier than the end of his/her fourth semester. To apply, students must have the necessary background and major to enter into the desired Master’s degree program. (Degree programs are described at haverford.edu/engineering/upenn). A minimum cumulative GPA of 3.0 and a minimum 3.0 GPA in all math, science, and engineering courses are also required to apply. The GRE is not required; however, students are strongly encouraged to take the GRE, especially those who have interests in pursuing a Ph.D. later. Admission decisions are made on a selective basis.

Via the existing “Quaker Consortium” arrangement, as admitted “sub-matriculates,” Haverford undergraduates may take up to three graduate courses to count toward their Master’s from Penn Engineering, subject to approval by their Graduate adviser. Biotechnology Master’s students may take up to four graduate courses. These may not be taken prior to submatriculating into Penn Engineering. Penn Engineering’s rules on double-counting courses for submatriculates permit students to use no more than three courses in satisfaction of the requirements of both the
Penn Master’s and the Bachelor’s at Haverford. (Note that through the “Quaker Consortium,” Penn will not charge current Haverford students tuition and fees for taking courses as undergraduates.)

All admitted 4+1 students are fully expected to graduate and receive their Bachelor’s degree from Haverford at the end of their fourth year at Haverford. If this is not achieved, the student will be dropped from the Master’s degree program at Penn Engineering. In the fifth and final year of the 4+1, students will be enrolled as full-time Master’s degree students in Penn Engineering, having fully completed their undergraduate degree at Haverford. During this year, the student will complete the remainder of the courses required by their specific Master’s degree program. The total number of courses for an engineering Master’s is 10 (11 in Biotechnology). The student will be financially responsible for all tuition and fees in the fifth year (Penn Engineering Master’s tuition and fees are charged by the course).

Interested students should consult their adviser and the program’s adviser for the 4+1 as early as possible. For more information, visit: haverford.edu/engineering/upenn/

3/2 Engineering Program
Haverford College and the California Institute of Technology (CalTech) have a joint program under which a student who is interested in engineering may, in the first semester of his/her junior year, apply for transfer to an engineering program at CalTech. If accepted in the program, then at the end of five years (three at Haverford, two at CalTech), the student will be awarded a Bachelor of Arts or Bachelor of Science degree by Haverford and a Bachelor of Engineering Degree by CalTech. For each engineering discipline, there is a required set of courses to be taken at Haverford during the first three years of the program. Interested students should consult their adviser and the College’s adviser for the 3/2 program about the proper course selection; this consultation should occur as early as possible. A cumulative grade point average of 3.5 is generally expected for this program.

For more information, visit: haverford.edu/engineering/caltech/

3/2 City Planning Program
Haverford students majoring in the Growth and Structure of Cities at Bryn Mawr College may apply for admission to the 3/2 Program in City Planning offered in conjunction with the University of Pennsylvania. This arrangement with the University of Pennsylvania’s Department of City and Regional Planning allows a student to earn both a Bachelor’s degree in the Growth and Structure of Cities at Bryn Mawr and a Master of City Planning (MCP) at the University of Pennsylvania in five years. Qualified students who are accepted into the 3/2 program will be eligible for consideration for financial aid during their period of residence at the University of Pennsylvania. Students interested in the 3/2 B.A./M.C.P. program may apply through their Cities major adviser during their sophomore or junior years, although they are encouraged to begin discussing their interest with members of the Cities Program as early as the beginning of their sophomore year.

4+1 Bioethics Program with the University of Pennsylvania
Haverford students can earn a Bachelor of Arts or Bachelor of Science degree from Haverford and a Master’s in Bioethics (M.B.E) from Penn’s Bioethics Program in the Perelman School of Medicine in five years.

This 4+1 partnership enables qualified Haverford undergraduates to gain early and expedited admission into a Master’s degree offered by the Penn Department of Medical Ethics and Health Policy. Students may apply to the M.B.E program as an external “sub-matriculate” no later than the end of the summer after the sixth semester at Haverford and no earlier than the end of the fourth semester. A GPA of 3.5 is required to apply; the GRE is not required. The admissions decision is based on the student’s transcript and letters of recommendation from one or more Haverford faculty members.

Upon acceptance to the program, students will take up to three graduate courses in Bioethics at Penn while still enrolled at Haverford; course selection is subject to approval by the M.B.E program’s director of education. There is no additional financial charge for these courses. During the four years at Haverford, students will also complete all graduation requirements, which can include courses taken at Penn as determined by Haverford’s Health Studies director.

The fifth year of the program is spent entirely at Penn. Nine courses in all (including those taken while a Haverford undergraduate) are required to
complete the requirements for the M.B.E degree. There is no financial aid available from Penn for the fifth year of the program, however students can apply for federal student loans. The tuition is approximately $4,900 per course as of 2014-15.

Undergraduates interested in applying for this program should contact the Health Studies director and visit medicalethics.med.upenn.edu/education/master-of-bioethics-mbe for more information.

One-Year Master’s Program at Claremont McKenna College’s Robert Day School of Economics and Finance
Haverford students accepted into the Robert Day School of Economics and Finance graduate school will receive full scholarship for their one-year Master’s in Finance at the Claremont McKenna College (CMC) campus in Claremont, California. The program offers an intensive curriculum in economics and finance with an additional emphasis on co-curricular programming that develops career skills and supports post-graduate job placement.

The scholarship includes full-tuition, but students are responsible for the cost of living expenses and for providing proof of health insurance. Program fees are minimal and all program events, including networking trips, are fully funded by the program.

Eligible students must have a strong academic record, demonstrating excellent quantitative skills, particularly through course work in macroeconomics and microeconomics at the intermediate level, statistics, and, if possible, corporate finance. However, applicants can present a variety of academic profiles for consideration. Course work planned for the summer before matriculation in the graduate program can be taken into consideration in the selection process.

The application deadline is in February of the senior year. For more information about the Master’s in Finance at CMC’s Robert Day School of Economics and Finance, please contact the chair of the Economics Department, and visit mc.edu/rdschool/academic/

Accelerated Degree Program with the Center for Latin American Studies at Georgetown University
Haverford has been invited to join other distinguished colleges and universities in an agreement with the Center for Latin American Studies at Georgetown University to participate in a five-year joint degree program. The cooperative agreement allows undergraduates who are concentrators in Latin American, Iberian and Latino Studies to pursue an accelerated course of study toward a graduate degree.

The program offers the highest qualified applicants the opportunity to count four courses from their undergraduate study toward the M.A. program in Latin American Studies at Georgetown University, enabling them to complete the degree in two semesters and one summer.

The five-year B.A.-M.A. program is designed for those students who demonstrate excellence at the undergraduate level. Qualified applicants must maintain a minimum GPA of 3.5, declare an interest in the cooperative degree program during the junior year, and participate in the Center’s summer study abroad program. During the senior year, students will apply through the normal Georgetown M.A. application cycle. If accepted into the M.A. program, up to four courses (two from the CLAS summer study program in Mexico or Chile and two advanced courses from Haverford) may be applied to the M.A. All M.A. prerequisites must be completed during the four years of undergraduate education, and candidates must have concentrated in Latin American Studies while at Haverford.

For more detailed information, consult Prof. Graciela Michelotti or visit the Georgetown Center for Latin American Studies, clas.georgetown.edu/academics/accelerated

Two-Year China Studies Master’s Program at Zhejiang University
Applicants accepted into China Studies Program (CSP) of Zhejiang University (ZHU), will receive full scholarship for a two-year Master’s in China Studies in Hangzhou, the location of ZJU. The program is conducted in English, but training in Mandarin is provided to help students navigate the university, the city, and the broader cultural environment, where students will undertake an internship between the first year (which focuses on classroom study) and the second year (which focuses on independent research related to your topic of study).

The scholarship will include tuition; registration fee; living stipend of CNY 1,700 per month; free accommodation on campus; fees for laboratory experiments, internship, and basic learning materials; basic medical insurance including fees for outpatient medical services, accidental injury,
and hospitalization medical treatment; one-time settlement subsidy of CNY 1,500; and possible research-related domestic travel fund.

The application deadline is in April of the senior year, by which time all the required application materials should reach the Office for China Studies Program at ZJU. The decision letter will be mailed out in June; the school year will start in September.

For more information about the two-year Master’s degree CSP program, please contact the chair of the Department of East Asian Languages and Cultures at Haverford and visit iczu.zju.edu.cn/english/redir.php?catalog_id=227

Study at Other American Colleges
Some students may also study at another college or university in the United States for the enrichment to be gained through different or more diversified liberal arts offerings. Some study at another school simply to experience college life in a different setting. Haverford has formal exchange programs with Claremont McKenna and Pitzer Colleges in California and Spelman College in Georgia. Permission for such study must be granted by the student’s adviser and dean. All courses must be approved in advance by the chairs of the appropriate Haverford departments. In order to provide a semester’s credit at Haverford (four course credits), a program at another institution must represent at least one-eighth of the degree program there; and similarly, in order to provide a year’s credit at Haverford, the program must represent one-quarter of the degree at the other institution.

Students who expect to study away from Haverford for a semester or a year must confirm their intention in writing to their dean, using the same timetable as that for a dean’s leave. They should also inform their dean when they have been accepted by the institution to which they have applied. Naturally, they will have discussed at an earlier time tentative plans with their adviser and dean. They should, finally, ensure that they will have earned 19 credits outside of their major and fulfilled the general education requirements by the end of the senior year.

Note: Students may not attend programs abroad through an American college or university during the academic year and receive credit at Haverford unless they go through the Office of International Academic Programs.

Independent Study While Not in Residence
Students who wish to carry independent study credit while away from the College should secure the approval of their advisers and that of the instructor(s) involved before submitting the written proposal to the dean for final approval. If approved, students will be charged at rate of $6,320 per credit.

Summer Study at Another Institution
A student wishing to obtain Haverford credit for summer school at another institution should follow the procedures as outlined below:

- The student should secure from the Registrar’s website a form entitled “Application for Summer School Credit.”
- With the form, the student should secure the approval of his/her faculty adviser, dean, and the chairperson of the Haverford department which corresponds to the field in which the work is to be done. Advance approval is required for obtaining Haverford credit and approval should be based on the suitability of the course for Haverford credit; approval sought retroactively will, in all likelihood, be denied. If no such department exists at Haverford College but does at Bryn Mawr College, then the student should seek the approval from the appropriate Bryn Mawr College department chairperson.
- In seeking approval, the student should first complete the descriptive information about the course (name, number, amount of credit conferred at the other institution, and the institution's name). The student should also present the Catalog course descriptions.
- The faculty adviser’s signature should represent an approval of the course as a part of the student’s program at Haverford.
- Faculty assigning credit should proceed on the principle that at any institution, each course counts as a fraction of the credit required for the degree. At Haverford, the minimum graduation requirement is 32 credits, equal to 128 semester hours. Therefore, summer credit equivalents must be identical to academic year equivalents for transfer credit to be considered at Haverford.

Other regulations governing summer study:
- Courses taken in summer school will not satisfy Haverford course requirements for the major unless prior written approval is granted by the department chair.
- A summer course must not be a repeat of or at a lower level than a course already a part of the
student’s Haverford academic record.

- To receive Haverford credit for courses taken in summer school, a student must earn a grade at least one full grade above the lowest passing Haverford grade: at least a 2.0 on the Haverford scale, or a grade of “C” on the A-F scale.

- Permission for credit must be secured before the course is taken.

- For summer work at Bryn Mawr College, only the permission of the student’s dean is required.

- In all cases of summer school work, including courses taken at Bryn Mawr and the University of Pennsylvania, students should have official transcripts forwarded to the Haverford College registrar. Unofficial grade reports will not be accepted for evaluation.

- Finally, students should realize that summer school credit, if accepted by Haverford, will transfer to Haverford simply as course credits. Course titles and credit values will be indicated on the record, but in no instance, including summer work at Bryn Mawr College and the University of Pennsylvania, will grades earned appear on the Haverford record; likewise, in no instance will the grades earned appear as part of the student’s cumulative grade point average at Haverford.

Students should follow the above procedures for all summer study, including summer study abroad. Approval for summer study abroad is identical to that for domestic summer study.

LEAVES OF ABSENCE

Leaves of absence can contribute greatly to the general education of some students. The College seeks to make it a fairly simple matter to arrange a leave. The authority to grant leaves and to specify their type, duration, and terms rests with the deans. Since the number of students admitted for any fall term depends upon the number of students returning, a student who requests a leave of absence late in the summer has effectively denied someone else a place at the College. If that student has also been assigned College housing, he or she is severely inconveniencing other students. Thus, a fine of $500 may be imposed upon students requesting leaves of absence after August 1 of any given year.

If, after a semester has begun, a student for any reason leaves the College (Dean’s Leave, Study Away, International Study, College Leave), he or she must vacate his or her dormitory room by a date determined by his or her dean in consultation with the student. In such cases, a pro-rated fee for room (and board, if applicable) will be assessed. At Haverford, leaves of absence fall into four categories:

- Dean’s Leave Without Conditions
- Dean’s Leave With Conditions
- College Leave
- Medical Leave

Students should note that while they may (or be required to) take courses at other institutions while on leave, if they are admitted as degree candidates at another institution while on any of these leaves of absence, must transfer out of Haverford College. Failure to do so in such cases will compel the College to revoke a student’s right to return to Haverford.

Dean’s Leave Without Conditions

Students in good academic standing may request a Dean’s Leave without conditions for return. The student must simply write to his/her dean asking to be placed on leave and specifying the date on which the student wants the leave to begin (i.e., immediately or after final exams).

Students should note that if they do not depart on a Dean’s Leave before the last day of classes in any given semester they must complete and perform satisfactorily on final exams and all other requirements for the courses in which they were enrolled in that semester; under no conditions will a Dean’s Leave, with or without conditions for return, be granted during final exams period unless it is for a leave that commences after final exams.

Return from such a leave is automatic as long as it is within three years of departure, and upon written request from the student. A student should write to his or her dean by March 1 for a fall semester return, or by December 1 for a spring semester return. Any student who remains on Dean’s Leave (with or without conditions) for three years will be placed on College Leave and will have to petition the Dean of the College for permission to return to the College to resume his/her studies.

Should a student who has been granted an unconditional Dean’s Leave fail one or more courses or otherwise perform poorly before the leave goes into effect, the student’s dean or the Committee on Student Standing and Programs Haverford College Catalog 2016-2017
(CSSP) may revoke the Dean’s Leave and place the student on a College Leave (see below).

**Dean’s Leave With Conditions**
The deans reserve the right to grant only a conditional Dean’s Leave if a student finds it necessary to take leave in the midst of a semester and does not therefore complete his/her courses. Typically, a Dean will grant a conditional leave in cases in which a student experiences personal problems that impede his/her ability to perform academically or otherwise loses the sense of purpose that is necessary to remain adequately engaged in his/her studies. The conditions for return from such a Dean’s Leave are at the discretion of each student’s Dean.

**College Leave**
A College Leave is involuntary and is employed in cases in which students are required to take leave for academic or disciplinary reasons. CSSP or the dean of the College may place a student on College Leave and return from College Leave is not automatic. Students who wish to return are expected to present to the dean convincing evidence of readiness to return. Deadlines for reapplying are the same as those for Dean’s Leave. Normally students are not permitted to return to Haverford College from a second College Leave.

**Medical Leave**
A student may request or be placed on a Medical Leave of absence. Such leaves are employed in a variety of circumstances: a student may request one if he/she has a medical condition that impairs his/her ability to perform academically; the College, through the Dean’s Office, may place a student on medical leave if he/she is a danger to him/herself or others, is a severe disruption to the ability of other students to perform academically, or if the student is unable for medical reasons to fulfill his/her academic responsibilities. For more information regarding Medical Leaves, consult the following web page:
blogs.haverford.edu/students-guide/files/2016/04/Medical-Leaves-2016.pdf
DEPARTMENT DESCRIPTIONS
AND COURSE LISTINGS
African and Africana Studies concentrators and students hone sophisticated global frames of reference and dynamic research methods in order to study continental Africa and the African diaspora. Drawing on anthropology, economics, history, linguistics, literature, music, philosophy, political science, and sociology, students analyze and interpret processes of emancipation, decolonization, development, and globalization in Africa proper and in societies with populations of African origin.

African and Africana Studies is a Bi-College program, offered as a minor at Bryn Mawr or as an area of concentration for students at Haverford majoring in certain disciplines. The concentration at Haverford is open to majors in which at least two Africana Studies courses are offered. The Africana Studies program also belongs to a consortium with Bryn Mawr College, Swarthmore College, and the University of Pennsylvania, allowing concentrators to access resources and courses at all four participating institutions.

LEARNING GOALS
- Study continental Africa and various African diasporas through a global frame of reference.
- Understand how the African continent has been linked for centuries to transcontinental movements of people, money, ideas, and things.
- Study African political and cultural history and African diasporic movements and the links between them.
- Understand how a variety of methodological approaches or disciplinary perspectives, including anthropology, economics, history, linguistics, literature, music, philosophy, political science, and sociology, can be used to analyze social life and practices in Africa and its diasporas and understand global trade, slavery, emancipation, decolonization, and development against a background of international economic change in Africa itself and in societies worldwide with populations of African origin.
- Examine the values and beliefs of persons and communities in multiple African societies as a way to critically and comparatively engage European and American history and philosophy.
- Examine African peoples’ responses to racialized Atlantic slave trade, colonization, and globalization in order to cultivate a theoretical understanding of social change processes.

CURRICULUM
The Africana Studies curriculum is organized to help students develop a global understanding of African societies and experiences throughout the African diaspora. A key to realizing this goal is students' capacities to relate disparate materials from cognate disciplines to their concentrated research in Africana Studies. Because Africana Studies concentrators must take courses in various fields and disciplines, it is vital that they have an opportunity to historically, conceptually, and theoretically frame their coursework in the concentration. To that end, concentrators in the African and Africana Studies program must take a foundation course at either Haverford or Bryn Mawr College. Students may satisfy this requirement by taking either AFST 101a, “Introduction to African and Africana Studies” or HIST 102a, “Introduction to Africana Civilizations.”

Students are advised to complete one of the two foundation course options as early as possible, ideally during the freshman or sophomore year, and by no later than the junior year.

CONCENTRATION REQUIREMENTS
- Concentrators must take either AFST 101a, “Introduction to African and Africana Studies” (Haverford College) or HIST 102a, “Introduction to Africana Civilizations” (BMC).
- Other than the required introductory course, students must complete five additional courses from a list approved by the concentration coordinator.
- At least two, and no more than three, courses must be completed in the departmental major.
- At least three Africana Studies courses must be taken in at least two departments outside of the major.
- At least one of the required courses must deal with the African diaspora.
• Concentrators must complete either a senior thesis or seminar-length essay in an area of Africana Studies.

Students majoring in a department that requires a thesis satisfy the requirement by writing on a topic approved by his or her department and by the coordinator(s) of the Africana Studies program. If the major department does not require a thesis, an equivalent written exercise that is a seminar-length essay is required. The essay may be written within the framework of a particular course or as an independent study project. The topic must be approved by the instructor in question and by the coordinator(s) of the Africana Studies program. Successfully completing the Africana Studies minor/concentration is noted on students' final transcripts.

FACULTY
Africana Studies Faculty:
Terrance Wiley
Assistant Professor of Religion and Africana Studies; Coordinator of Africana Studies at Haverford

Kalala Ngalamulume
Associate Professor, History (Bryn Mawr College); Coordinator of Africana Studies at Bryn Mawr

Other Affiliated Faculty:
Koffi Anyinefa
Professor, French and Francophone Studies

Kimberly Benston
President of the College and Francis B. Gummere Professor of English

Israel Burshatin
Chair and Barbara Riley Levin Professor of Comparative Literature and Professor of Spanish

Andrew Friedman
Associate Professor, History

Juli Grigsby
Assistant Professor, Anthropology

Christina Knight
Assistant Professor, Independent College Programs

Laura McGrane
Associate Professor, English

Rajeswari Mohan
Associate Professor, English

Zolani Ngwane
Associate Professor, Anthropology

David Sedley
Associate Professor and Chair, French and Francophone Studies

Jesse Weaver Shipley
Associate Professor, Anthropology

Asali Solomon
Assistant Professor, English

Gustavus Stadler
Associate Professor, English

William Williams
Professor, Fine Arts

Susanna Wing
Associate Professor, Political Science

Christina Zwarg
Associate Professor, English

COURSES
AFSTH101 INTRODUCTION TO AFRICAN AND AFRICANA STUDIES
Zolani Noonan-Ngwane, Jesse Shipley
An interdisciplinary introduction to Africana Studies, emphasizing change and response among African peoples in Africa and outside. Social Science (SO)

AFSTH233 TOPICS IN CARIBBEAN LITERATURE
Asali Solomon
This course will focus on authors of the Caribbean and its diaspora, engaging fiction, theory, memoir, poetry and drama from the mid-twentieth century through the present. Core themes will include migration, class, colonialism, racial identity, gender and sexuality. Crosslisted: English, Africana Studies; Humanities (HU)

AFSTH254 RAP AND RELIGION: RHYMES ABOUT GOD AND THE GOOD
Terrance Wiley
We will explore the origins, existential, and ethical dimensions of Rhythm and Poetry (RAP) music. Giving attention to RAP songs written and
produced by African American artists, including Tupac, Nas, Jay-Z, The Roots, and Lauryn Hill, Kanye West, we will analyze their work with an interest in understanding a) the conceptions of God and the good reflected in them, b) how these conceptions connect to and reflect African American social and cultural practices, and c) how the conceptions under consideration change over time. Humanities (HU)

AFSTH319 BLACK QUEER SAINTS: SEX, GENDER, RACE, CLASS AND THE QUEST FOR LIBERATION
Terrance Wiley
Drawing on fiction, biography, critical theory, film, essays, and memoirs, participants will explore how certain African American artists, activists, and religionists have resisted, represented, and reinterpreted sex, sexuality, and gender norms in the context of capitalist, white supremacist, male supremacist, and heteronormative cultures. Humanities (HU)

COURSES CROSSTLISTED WITH AFRICANA STUDIES:
ANTHH212 FEMINIST ETHNOGRAPHY
Juli Grigsby

ANTHH214 RACE, CRIME, & SEXUALITY
Juli Grigsby

ANTHH245 ETHNOGRAPHY OF AFRICA: CULTURE, POWER, AND IDENTITY IN AFRICA
Zolani Ngwane

ANTHH249 COLONIAL LAW & HUMAN RIGHTS
Jesse Weaver Shipley

ANTHH351 WRITING AND SOCIAL CONSTRUCTION OF SUBJECTIVITY
Zolani Ngwane

ARTSH217 THE HISTORY OF AFRICAN-AMERICAN ART FROM 1619 TO THE PRESENT
William Williams

COMLH314 ADVANCED TOPICS IN FRENCH LITERATURE: LE CONGO/ZAIRE
Koffi Anyinéfa

COMLH351 WRITING AND SOCIAL CONSTRUCTION OF SUBJECTIVITY
Zolani Ngwane

COMLH321 GERMAN COLONIALISM AND WORLD WAR I
Imke Brust

ENGLH376 LITERATURE AND POLITICS OF SOUTH AFRICAN APARTHEID
Laura McGrane

ENGLH364 AFTER MASTERY: TRAUMA, RECONSTRUCTION, AND THE LITERARY EVENT
Christina Zwarg

ENGLH361 TOPICS AFRICAN-AMERICAN LIT: THE NEW BLACK ARTS MOVEMENT: EXPRESSIVE CULTURE AFTER BLACK NATIONALISM
Asali Solomon

ENGLH363 TOPICS IN AMERICAN LITERATURE: THE CONSTRUCTION OF WHITENESS IN PRECARIOUS TIMES
Gustavus Stadler

FRENH250 INTRODUCTION À LA LITTÉRATURE FRANCOPHONE
Staff

FRENH312 ADVANCED TOPICS IN FRENCH LITERATURE: MONTAIGNE, FAITS ET FICTIONS
David Sedley

FRENH255 CINÉMA FRANÇAIS/FRANCOPHONE ET COLONIALISM
Koffi Anyinéfa

HISTH114 ORIGINS OF THE GLOBAL SOUTH
James Krippner

HISTH310 POLITICAL TECHNOLOGIES OF RACE AND THE BODY
Andrew Friedman

ICPRH242 INTRODUCTION TO VISUAL STUDIES
Christina Knight
AFRICANA STUDIES

POLSH235 AFRICAN POLITICS
Susanna Wing

POLSH242 WOMEN IN WAR AND PEACE
Susanna Wing

POLSH283 AFRICAN POLITICS AND LITERATURE
Susanna Wing

RELGH230 RELIGION AND BLACK FREEDOM STRUGGLE
Terrance Wiley

RELGH305 SEMINAR IN RELIGION, ETHICS, AND SOCIETY: RELIGION, MAGIC & ORIENTALISM
Staff

SPANH266 IBERIAN ORIENTALISM AND THE NATION
Israel Burshatin

SPANH340 THE MOOR IN SPANISH LITERATURE
Israel Burshatin
Anthropology is the holistic and comparative study of human beings from a variety of perspectives—historical, linguistic, biological, social, and cultural—in pursuit of a deeper understanding of humankind and the promotion of informed social policy. Anthropologists:

- conduct “participant-observation” ethnographic research with diverse social groups in different parts of the world, examining how people imagine and structure their lives and aspirations.
- study social life and organization, modes of subsistence, exchange practices, the family, politics and power, ritual and religion, gender, and all forms of expressive culture.
- study social, economic, cultural, and political systems: how these systems are inhabited, contested, changed and reproduced over time.
- pay particular attention to the relationships between local contexts and broader global social, geographic and historical regimes and ideas.
- aim to address through ethnographic and documentary research the most pressing issues of our times, especially with reference to the effects of globalization, the challenges of social and ethnic diversity, and the pursuit of social justice in the domains of health, the environment, and human rights.

At Haverford we teach socio-cultural anthropology, which has three central traits:

- It is comparative: we compare social and cultural phenomena in one place to those in another and in relation to general theories about humans and human societies. This comparative method allows us to tease out what is unique and distinctive about the subject we are studying and what more generally tends to be true.
- It is holistic. We study practices and institutions as they are embedded in context.
- It involves participant-observation fieldwork. Social and cultural anthropologists live in the communities they are studying for extended periods of time, to build a perspective that integrates an insider’s and an outsider’s points of view.

Anthropologists have long studied both Western and non-Western civilizations, including people and social institutions re-imagining modernity in Africa, Asia, and Latin America, paying particular attention to the value and diversity of the full human cultural record as well as to the contemporary predicaments of marginalized peoples. Ethnographers work on small-scale communities as well as processes of globalization. Over the last three decades scholars in anthropology have begun to focus their work also on powerful metropolitan and cosmopolitan social actors, both in the United States and globally. As ethnographers study the work of businessmen, planners, state officials, doctors, artists, and professionals in transnational institutions such as Wall Street and the World Bank, the discipline has made key contributions in critical debates about globalization, financial reform, public health, education, environment, and urbanization, and our curriculum is fully engaged with these areas of research and study.

LEARNING GOALS

The anthropology major teaches students the methods of social and cultural research and analysis and introduces them to the history of anthropology. Students are encouraged to think critically and self-reflectively about several areas of intellectual inquiry, including:

- The discipline of anthropology:
  - To understand the unique contribution that anthropology makes to the study of the social, and addresses the most pressing issues of our times.
  - To learn how to situate strange and familiar social practices and cultural categories in shifting and contingent historical, economic, and political formations and structures.
  - To recognize the impact of the position of the scholar in the production of knowledge.
  - To know the key figures in anthropology and their specific theoretical, methodological, and empirical contributions to the history and development of the discipline.
  - To understand key contemporary debates in the field and how older notions of race,
culture, nation, and language have shaped recent theoretical innovations.

- To be familiar with the subfields of the discipline (e.g., political and legal anthropology, medical anthropology, the anthropology of religion, environmental anthropology, etc.) and their contributions to knowledge.

- The craft and theory of anthropological research:
  - To have first-hand experience of data-collection methods, including ethnographic field research, interviewing, and archival research.
  - To understand the ethical obligations of an ethnographic researcher and to be able to engage others with respect and compassion.
  - To be versed in the ethnographic record of more than one society; to develop a capacity to think comparatively across cultures; to problematize and analyze familiar practice and “common sense” in a new light.
  - To understand the relationship between theory and empirical data, i.e.:
    - how specific anthropologists have used theory to interpret and explain social and cultural formations, and
    - how particular ethnographic situations and circumstances have allowed or required specific anthropologists to revise, critique, and improve theoretical models.
  - To understand ethnography as a methodology and a genre of writing.

- The basic skills of anthropological writing and communicating anthropological knowledge:
  - To be able to write a critical essay, a fieldnote, an academic book review, and a review of the literature for a topic of anthropological interest.
  - To understand the difference between a scholarly argument that proves a particular point (interpretive, explanatory), and an argument that advocates an attitude or action.
  - To be able to construct a sound argument supported by evidence and to be able to engage in scholarly debate.
  - To understand the diverse media and forums through which anthropological knowledge is communicated to the public.

### MAJOR REQUIREMENTS

Students are required to take a total of 11 courses in the major, including 6 required courses within the department. Individual programs require the adviser’s approval.

- ANTH 103a, Introduction to Anthropology, preferably in the first or second year.
- ANTH 303a or b, History and Theory of Anthropology, before the senior year.
- One course focused on an ethnographic or geographic area or a cohesive non-geographically specific field.
- One other 200-level course in this department.
- One other 300-level course in this department, before the senior year.
- Four additional courses approved by your major adviser.
- A two-credit, intensive Senior Thesis Seminar, during the fall and spring semesters of the senior year (ANTH 450/451).

All major programs require the approval of the major adviser. Students may count no more than one biological anthropology or archaeology course for the Haverford major. Students must take the remaining courses in the Haverford Anthropology Department, in an anthropology department within the Tri-Co or at Penn. Taking courses to count toward the major outside of Haverford’s Anthropology Department, outside of the discipline, or while studying abroad requires approval of the student’s adviser. Typically no more than two courses from outside of Tri-Co anthropology that relate to the student’s specific interests are counted towards the major though this can be discussed with the adviser in special cases.

### MINOR REQUIREMENTS

The minor in anthropology consists of six courses, including:

- ANTH 103a, Introduction to Anthropology
- ANTH 303, History and Theory of Anthropology
- an ethnographic area course
- three other courses at the 200 or 300 level, including one course at the 300 level.

Minors must take a minimum of three courses in the Haverford department. All minor programs require approval of the minor adviser.
SENIOR PROJECT

The anthropology thesis is a year-long, two-credit independent research project designed and implemented by each senior anthropology major. Each student selects a research topic, defines a specific research question, describes how that question relates to a broader field of ethnographic and anthropological writing on the topic, conducts independent, original research with primary source materials that can be ethnographic, archival, and/or material, and develops and writes up an original argument, supported by evidence, about the primary source materials. This argument is informed by the relevant theory and by ethnographic and anthropological scholarship. Thus, a successful anthropology thesis will provide substantial evidence that students are able to conduct independent research and synthesize theoretical arguments with ethnographic materials, as well as displaying strong skills in presenting their research, and entering into intellectual dialogue with peers and faculty.

The senior thesis consists of two courses, ANTH 450 and ANTH 451. Anthropology 450 is a seminar course taught during the fall semester, typically by one faculty member who receives one teaching credit. For ANTH 450, students define their research question, write and rewrite a research prospectus, do ethnographic exercises, study professional ethics, familiarize themselves with IRBs, and conclude with a literature review of their topic. ANTH 451 is supervised research and writing. A faculty member receives one credit for supervising four to six senior theses. During ANTH 451, each student does guided research on his or her topic, drafts and writes a thesis, does a public presentation of his or her thesis research, and takes an oral comprehensive exam.

Senior Project Learning Goals

- Define an anthropological research question.
- Situate their research question in a broader field of anthropological and scholarly inquiry.
- Conduct research with primary source materials (archival, ethnographic, and/or material).
- Develop an original argument about their primary source materials that is informed by relevant theory and anthropological literature.

Senior Project Assessment

For ANTH 450, students are assessed on a preliminary research proposal, a research prospectus, a literature review draft, a research presentation, and a literature review, as well as short in-class methodological exercises. For ANTH 451, students are assessed on their final thesis, public presentation, and oral exam. Two faculty members read and comment on each thesis. All faculty attend and evaluate the public presentations and the oral exams. The faculty collectively assign each student’s final grade for the course, as well as each of the three components (thesis, public presentation, and oral exam). The thesis also plays an important role in whether or not a student receives honors or highest honors in Anthropology.

REQUIREMENTS FOR HONORS

The faculty in the Department of Anthropology decides honors based upon overall excellence in the major:

- Outstanding work in the senior thesis (final written work and oral presentation).
- Strong cumulative performance in all anthropological coursework (typically a grade point average of 3.7 or higher).
- A record of consistent intellectual commitment and participation in the department.

Faculty awards high honors upon occasion, for exceptional contributions in all three areas.

FACULTY

Jesse Weaver Shipley (on leave 2016-17)
Associate Professor

Zolani Ngwane
Chair and Associate Professor

Joshua Moses
Assistant Professor

Juli Grigsby
Assistant Professor

Jacob Culbertson
Visiting Assistant Professor

Patricia Kelly
Visiting Assistant Professor

Christopher Roebuck
Visiting Assistant Professor

Zainab Saleh
Assistant Professor
ANTHROPOLOGY

Affiliated Faculty at Bryn Mawr College:

Gary McDonogh
Helen Hermann Chair
Professor of Growth and Structure of Cities

Faculty of the Bryn Mawr Department of Anthropology:
See brynmawr.edu/anthropology

COURSES

ANTH103 INTRODUCTION TO ANTHROPOLOGY
Staff
An introduction to the basic ideas and methods of social anthropology. Examines major theoretical and ethnographic concerns of the discipline from its origins to the present, such as family and kinship, production and reproduction, history and evolution, symbolism and representation, with particular attention to such issues as race and racism, gender and sexuality, class, and ethnicity. Prerequisite(s): not open to students who have completed BMC ANTH 102; Social Science (SO)

ANTH155 THEMES IN THE ANTHROPOLOGY OF RELIGION
Zolani Ngwane
What is it that rituals actually do? Are they enactments (affirmations) of collective ideals or are they arguments about these? Are they media for political action or are they expressions of teleological phenomena? The course is a comparative study of ritual and its place in religious practice and political argumentation. Concrete case studies will include an initiation ritual in South Africa, the Communion Sacrament in Christianity, a Holocaust commemorative site in Auschwitz, and the cult of spirit-possession in Niger. Crosslisted: Religion; Social Science (SO)

ANTH200 VIRUSES, HUMANS, VITAL POLITICS: AN ANTHROPOLOGY OF HIV & AIDS
Christopher Roebuck
This course provides a theoretical foundation for cultural analyses and responses to HIV & AIDS. Topics include the history of HIV & AIDS and their epidemiological trends; medical and public health responses in various (inter)national settings; structural factors shaping vulnerability and access to prevention and treatment; local and global AIDS activists; social stigma, discrimination, and criminalization; discourses of human rights, humanitarianism, and citizenship; and representations of risk, sickness, and care. Prerequisite(s): Introduction to Anthropology or related social science; Crosslisted: Health Studies; Social Science (SO)

ANTH203 IMAGINING THE ARCTIC: READING CONTEMPORARY ETHNOGRAPHIES OF THE NORTH
Joshua Moses
Circumpolar regions have been imagined as vast, remote, wild and pristine regions of the planet. More recently, with images of polar bears sinking on sea ice, the Arctic has been depicted as vulnerable, imperiled by climate change and environmental destruction. Focusing on ethnography, this course examines how scholars have engaged critical issues facing the contemporary Arctic. Themes include local/global interactions, indigenous politics, resource extraction, human/animal relations, self-governance and cultural politics. Readings include, Franz Boas, Jean Briggs, Eleanor Leacock, George Wenzel, Hugh Brody, Julie Cruikshank, Kirk Dombrowski and Lisa Stevenson. Prerequisite(s): Intro to Anthropology or Case Studies in Environmental Issues (or the equivalent); Crosslisted: ENVS; Social Science (SO)

ANTH207 VISUAL ANTHROPOLOGY
Staff
This course looks at anthropology's relationship to the visual, focusing particularly on ethnographic film. How have anthropologists used visual media and ethnographic film to represent culture and produce knowledge? Students will study visual anthropology as a field and also practice as visual anthropologists by making two short ethnographic films in groups. Prerequisite(s): ANTH 103 at Haverford or 102 at Bryn Mawr; Social Science (SO)

ANTH212 FEMINIST ETHNOGRAPHY
Juli Grigsby
Nearly three decades ago the question, “Can there be as Feminist Ethnography?” was posed by Judith Stacey. Since a number of scholars have delved into the utility and limitations of feminist praxis in anthropological research. More recent articulations of feminist ethnography have sought to lift up engaged and activist responses to human conditions. Feminist ethnography is both methodology and method that seeks to explore how gender, race, sexuality, and subjectivity operate in
societies. This course is in one part analytic and in another how-to, participants will read classic and contemporary feminist ethnography while crafting mini auto ethnographies. Prerequisite(s): one anthropology course or instructor approval; Social Science (SO)

ANTHH213 BIOETHICS & SOCIAL JUSTICE
Christopher Roebuck
This is a course that offers social science perspectives on bioethics. It takes as its object of investigation bioethics itself and the conditions of its possibility and emergence in the last 50 years as a complex, netting together a growing assembly of actors, objects, relations, sites, and issues under the aegis of the good and the just in science and medicine. But how is the good and just defined; by whom; why; and with sorts of consequences for life and death, health and illness, survival and injury? Topics (ie. problems, questions, case studies) include definitions of life, death, personhood; access to medical care and pharmaceuticals; biological experimentation and pharmaceutical trials; sex and the body; race, gender, and medical discrimination; health equity, social justice, and human rights. Prerequisite(s): one course in social sciences; Social Science (SO)

ANTHH214 RACE, CRIME, & SEXUALITY
Juli Grigsby
What is a crime and who is a criminal? How are social understandings of punishment and control informed by hegemonic racial and sexualized ideologies? How do the answers to these questions change the ways we imagine and respond to news? To violence? And impact subjectivities? This seminar will examine the complex intersections between race, gender, sexuality, and crime within U.S. cultural, political and social contexts. To do this, we will explore historical and contemporary interdisciplinary studies that provide arguments about the connections between race, gender, sexuality, poverty and the criminal justice system. Topics include: mass incarceration, policing, violence, and media representations of crime. Prerequisite(s): one anthropology course; Social Science (SO)

ANTHH216 WOMEN AND POWER: BAD GIRLS-GENDER AND LABOR IN WORKING-CLASS AMERICA
Anne Balay
This course explores how work and class shape and challenge out assumptions about gender and sexuality. Grounded in anthropological notions of power and culture, the readings are interdisciplinary, ranging from Esther Netwon's pioneering Mother Camp and Christine Walley's Exit Zero to novels, oral histories, and popular music. We examine what work is, and how it can be understood as forming, and being formed by, subjectivities, collectivities, and imaginaries in the contemporary USA. Social Science (SO)

ANTHH223 OLD AGE IN THE MODERN AGE
Terry Snyder
This course provides a survey on the history of aging in the United States from the seventeenth through the twentieth century. The class will examine broad consideration of aging through lenses of historical, community, and care perspectives. It will begin with introductory context of age inventions regarding childhood, adolescence and middle age/mid-life. We will look at shifting theories and attitudes on age. We will examine issues of demographics and poverty among the elderly, as well as health care and social assistance programs. Further investigation on the impact or roles of race, ethnicity and religion will be considered. We will explore the influence of industrialization, retirement, and experience in shaping ideas of age and the lived experience. Finally, we will examine these ideas on aging through a close reading of historical case studies of past and current Philadelphia CCRCs (Continuing Care and Retirement Communities). Social Science (SO)

ANTHH224 MICROBES–ANIMALS–HUMANS: ETHNOGRAPHIC ADVENTURES IN MULTISPECIES WORLDS
Christopher Roebuck
The course invites an anthropological engagement with what has been termed critical animal studies and the “turn to the animal.” This is a budding multidisciplinary field that investigates relations among human and non-human actants, and the shape of interspecies living. The course contends with relationships between “the human” and “the animal”, their ethical implications, and their social, political, and ecological effects in contemporary lifeworlds. We grapple with the complex, often contradictory, and always fragile interdependences of earthly life. Prerequisite(s): 100-level course in anthropology, health studies, environmental studies or related social sciences; Crosslisted: ENVS and HLTH; Social Science (SO)
ANTHROPOLOGY

CSTSH227 RACE AND ETHNICITY IN THE CLASSICAL WORLD
Staff
This course investigates ancient thinking about race and ethnicity, as represented in the literature of the ancient Mediterranean through such authors as Homer, Herodotus, Aeschylus, Aristotle, Vergil, Caesar, and Tacitus. Humanities (HU)

ANTH245 ETHNOGRAPHY OF AFRICA: CULTURE, POWER, AND IDENTITY IN AFRICA
Zolani Ngwane
This course is a historical overview of some classic and contemporary ethnographic studies of Africa. The course focuses on the contribution of social anthropology to our understanding of the history and socio-cultural identities and practices of the people of Africa. Social Science (SO)

ANTH249 COLONIAL LAW & HUMAN RIGHTS
Staff
This course examines the colonial legacies of contemporary discourses of human rights and development as they are relevant in contemporary global politics. By taking an historical approach to the idea of rights we will make connections between sovereignty, the rule of law, and the rights of citizenship. We will use a critical eye to explore the conditions of possibility that allow states, development organizations, donor agencies, and individuals to unwittingly reproduce centuries old tropes of poverty, degradation, and helplessness of non-Western peoples. Using historical descriptions of the encounters between Europeans and Africans in West Africa and South Africa we will unpack assumptions about African societies. We will also explore liberalism and it connections to British colonialism its contemporary incarnations. Prerequisite(s): one 100-level course in anthropology, political science, sociology, or history; Social Science (SO)

ANTH253 ANTHROPOLOGY OF THE MIDDLE EAST AND NORTH AFRICA
Zainab Saleh
This course surveys anthropological approaches to the Middle East and North Africa, with a focus on themes of representation. In addition, we will explore questions of gender, religion, nation-state, colonialism, tribes, subject formation, and sexuality. We will examine a range of critical methodologies applying them to a variety of ethnographic sources that anthropologists have been using in their studies, namely archives, fieldwork, poetry, memorials, science and technology. Prerequisite(s): one 100-level course in anthropology, political science, sociology, or history; Social Science (SO)

ANTH259 ETHNOGRAPHY OF ISLAM
Zainab Saleh
Comparative ethnographies of Muslim societies. Islam as a field of anthropological inquiry and theorizing. Ethnographic representation and the construction of ethnographic authority. Islam in the western imagination. Humanities (HU)

ANTH264 MATERIALITY AND SPECTACLE IN NINETEENTH CENTURY UNITED STATES
Terry Snyder
Spectacles reflect, influence, and change cultural experiences, meaning, and understanding. This course will consider the materiality of spectacular nineteenth century US events through critical examination of historical accounts, primary research, and close readings of objects. Crosslisted: HIST; Social Science (SO)

ENVS281 NATURE/ CULTURE: AN INTRODUCTION TO ENVIRONMENTAL ANTHROPOLOGY
Joshua Moses
This course will introduce students to the emerging field of environmental anthropology that focuses on the interrelationship between human cultures and natural environments. Environmental anthropology studies the various ways in which our biological survival and our social structures are influenced by environmental factors around us,
while at the same time analyzing how our actions shape these environmental factors in turn. The course will engage with some of the key themes of the major sub-disciplines of environmental anthropology, viz. ecological anthropology, ethnoecology, political ecology, environmental justice, and sustainability studies. Topics covered will include human adaptation, traditional environmental knowledge, food justice, race/class and access to safe environment, etc. Prerequisite(s): ANTH 103 or ENVS 101; Social Science (SO)

ANTHH302 OIL, CULTURE, POWER
Zainab Saleh
This course will examine the political, social, and cultural history of oil. As the single most important commodity in the world, the story of control over this highly prized resource is a complex and violent one. It will discuss the ways in which oil has defined the fates of empires and nation-states, the rise and fall of local political movements, violence, neoliberal governmentality, and knowledge production. Prerequisite(s): one 100-level course in anthropology, political science, sociology, or history; Social Science (SO)

ANTHH303 HISTORY AND THEORY OF ANTHROPOLOGY
Zainab Saleh, Christopher Roebuck
The development of anthropological thought. Theories of society and the human subject, social organization and social structure, and the culture concept. Structuralism, Marxist anthropology, the crisis of representation in the 1980s and 1990s, postmodernism, the relationship between ethnography and history, and practice theory. Prerequisite(s): one course in ANTH, excluding BMC ANTH B303; Social Science (SO)

ANTHH309 ANTHROPOLOGY AND URBAN ECOLOGY
Joshua Moses
This course focuses on anthropology’s contributions (and potential contributions) to urban ecology. Urban ecology is inherently interdisciplinary, drawing on anthropology, urban planning, geography and forestry. Through a study of Philadelphia’s current struggles to redefine itself as a “green city,” students will gain grounding in anthropological theory and practice and urban ecology. Themes will include the intersections of race, class, and ecology; urban farming/gardening; brownfields; disaster and resilience; grassroots organizing; and ideas of place, home and nature.

Students will take several field trips to Philadelphia in collaboration with the United States Department of Agriculture Philadelphia Field station. Readings will include: Joan Iverson Nassauer, Lewis Mumford, Peter Berg, Anne Rademencher, Aldo Leopold, Rowan Rowntree, Gregory Bateson, Lindsay K. Campbell, Carl Zimmer, Baltimore Ecosystem Study, Swyngedouw Heynen, Kim Fortun, Leila Darwish. Prerequisite(s): students will be selected based on instructor evaluation of written applications; Crosslisted: Environmental Studies; Social Science (SO)

ANTHH322 FIELDWORK
Joshua Moses
The course will provide training in qualitative research methods, with a focus on participant-observation. It will engage with theoretical debates, ethical questions, and practical issues concerning the craft of ethnographic field work. Students will conduct several small-scale field exercises and design and implement a larger ethnographic project. Social Science (SO)

ANTHH330 RACE, CLASS AND PUBLIC ANTHROPOLOGY IN THE US
Patricia Kelly
This course examines poverty, work, whiteness, race, and migration in the wake of three decades of neoliberal economic policies in the US, and how anthropologists do work in the public interest on these topics. Students will learn themes in the literature, theoretical scaffolding, and research methods of applied, public, and activist anthropology in relation to US-based ethnography. The course includes field research in Fishtown (Philadelphia). Social Science (SO)

ANTHH350 SOCIAL & CULTURAL THEORY: URBAN SOUTH ASIA
Staff
With one-fifth of the world’s population, South Asia and its urban centers are playing an increasingly important role in global economic transformations. This course incorporates insights from anthropology, urban studies, political science, history, and documentary film to explore the social, political and economic relationships that shape the cities of South Asia in our contemporary moment. We will examine how processes of globalization spur new dynamics in South Asia’s cities such as the formation of a ‘new’ urban middle class, the rise of consumer culture, and the realignments of ethnic, caste, religious, gendered and linguistic...
identities. We will also explore how ongoing and historical infrastructural development, continued in-migration, and the media shape how people reimagine themselves and their communities as they make their lives in Delhi, Karachi, Dhaka, and Colombo, to name a few of the cities we will become familiar with throughout the semester. Prerequisite(s): two courses in anthropology or consent of instructor. History and Theory of Anthropology recommended. Social Science (SO)

ANTH351 WRITING AND SOCIAL CONSTRUCTION OF SUBJECTIVITY
Zolani Ngwane
This course is an interdisciplinary exploration of writing as a social institution, personal ritual, cultural artifact and a technology. Beginning with some debates in the social sciences concerning the place of literacy in individual cognitive development and social progress, we will proceed to explore some core assumptions about speech and writing in western thought from Plato to recent French feminist theory. The goal of this course is to offer students a genealogical account of anthropological ways of thinking about the human being as a creative agent and a social subject. Crosslisted: COML; Social Science (SO)

ANTH353 CITIZENSHIP, MIGRATION, AND BELONGING
Zainab Saleh
Migration, displacement and tourism at a mass scale are a modern phenomenon. These different forms of movements have intensified debates over the other, identity, home, and exile. This course offers a critical examination of the question of human movement in the age of globalization. Some of the issues that will we focus on include: national identity and globalization, mass media, nostalgia and the notion of home, and imagination of the past/home among migrant groups. The course will also explore new academic approaches that have emphasized hybrid identities and double-consciousness among both migrant communities and the host countries. Prerequisite(s): one 200-level course in anthropology, political science, sociology, or history; Crosslisted: PEAC; Social Science (SO)

ANTH450 SENIOR SEMINAR: RESEARCH AND WRITING
Staff
The fall semester of the two-semester senior thesis seminar. Students do archival and ethnographic research, write a research prospectus, get training on ethics, and write a review of the anthropological literature on their area of inquiry. Social Science (SO)

ANTH451 SENIOR SEMINAR: SUPERVISED RESEARCH AND WRITING
Staff
The spring semester of the two-semester senior thesis seminar. Students complete research on their thesis and write an ethnography. Most of the semester is individual meetings between thesis writers and advisers. The spring senior thesis seminar includes a public thesis presentation and an oral exam. Social Science (SO)
ARABIC (TRI-COLLEGE)
brynmawr.edu/arabic

Arabic language instruction is offered through Tri-College cooperation. Courses are available at Bryn Mawr (Intermediate), Haverford (Elementary), and Swarthmore Colleges (Advanced). The teaching of Arabic is a component of the three colleges’ efforts to increase the presence of the Middle East in their curricula. Bryn Mawr offers courses on the Middle East in the departments of Anthropology, Classical and Near Eastern Archaeology, Comparative Literature, General Studies, History, History of Art, and Political Science. Additionally, students can have a concentration in Middle Eastern Studies.

FACULTY
At Bryn Mawr:
Grace Armstrong
Chair and Eunice M. Schenck 1907 Professor of French and Director of Middle Eastern Languages

Manar Darwish
Instructor and Coordinator of Bi-Co Arabic Program

Farnaz Perry
Drill Instructor

At Swarthmore:
Khaled al-Masri
Assistant Professor Arabic
Coordinator of Islamic Studies Program
kalmasri@swarthmore.edu

Ben Smith
Visiting Assistant Professor Arabic
bsmith3@swarthmore.edu

Dima Hanna
Lecturer Arabic

COURSES
ARABB001 INTRODUCTION TO MODERN STANDARD ARABIC
Manar Darwish
Three additional hours of Drill required.
Humanities (HU)

ARABB002 INTRODUCTION TO MODERN STANDARD ARABIC
Farnaz Farokh Perry
Humanities (HU)

AT BRYN MAWR:
ARABB002 SECOND YEAR MODERN STANDARD ARABIC
Manar Darwish
Combines intensive oral practice with writing and reading in the modern language. The course aims to increase students’ expressive ability through the introduction of more advanced grammatical patterns and idiomatic expressions. Introduces students to authentic written texts and examples of Arabic expression through several media. Prerequisite(s): ARAB B002 or placement by instructor; Humanities (HU)
Courses in the arts are designed to prepare students who might wish to pursue advanced training in their fields and are also for those who want to broaden their academic studies with work in the arts that is conducted at a serious and disciplined level. Courses are offered at introductory as well as advanced levels.

Students may complete a minor in Creative Writing, Dance or Theater and qualified students may submit an application to major in Creative Writing, Dance or Theater through the independent major program. Students may complete a major in Fine Arts or a major or minor in Music at Haverford College. English majors may complete a concentration in Creative Writing.

**FACULTY**

- **Dilruba Ahmed**  
  Lecturer

- **Madeline Cantor**  
  Associate Director and Term Professor of Dance

- **Linda Caruso Haviland**  
  Director and Associate Professor of Dance

- **Lauren Feldman**  
  Lecturer

- **Thomas Ferrick**  
  Lecturer

- **Cordelia Allen Jensen**  
  Lecturer

- **Annie Liontas**  
  Lecturer

- **Mark Lord**  
  Alice Carter Dickerman Director of the Arts Program and Professor of the Arts on the Theresa Helburn Chair of Drama and Director of the Theater Program

- **Maiko Matsushima**  
  Lecturer

- **Catharine Slusar**  
  Assistant Professor in Theater

**ARTS IN EDUCATION**

The Arts Program offers a Praxis II course for students who have substantial experience in an art form and are interested in extending that experience into teaching and learning at educational and community sites.

**ARTA B251 ARTS TEACHING IN EDUCATIONAL AND COMMUNITY SETTINGS**

**Staff**

This is a Praxis II course intended for students who have substantial experience in an art form and are interested in extending that experience into teaching and learning at educational and community sites. Following an overview of the history of the arts in education, the course will investigate underlying theories. The praxis component will allow students to create a fluid relationship between theory and practice through observing, teaching and reflecting on arts practices in educational contexts. School or community placement four hours a week. Prerequisite(s): at least an intermediate level of experience in an art form. This course counts toward the minor in Dance or Theater. Counts towards: Praxis Program. (Not Offered 2016-2017)

**CREATIVE WRITING**

Courses in Creative Writing within the Arts Program are designed for students who wish to develop their skills and appreciation of creative writing in a variety of genres (poetry, prose fiction and nonfiction, playwriting, screenwriting, etc.) and for those intending to pursue studies in creative writing at the graduate level. Any English major may include one Creative Writing course in the major plan. Students may pursue a minor as described below. While there is no existing major in Creative Writing, exceptionally well-qualified students with a GPA of 3.7 or higher in Creative Writing courses completed in the Tri-College curriculum may consider submitting an application to major in Creative Writing through the Independent Major Program after meeting with the Creative Writing Program director. When approved, the independent major in Creative Writing may also...
be pursued as a double major with another academic major subject.

Minor Requirements
Requirements for the minor in Creative Writing are six units of course work, generally including three beginning/intermediate courses in at least three different genres of creative writing (chosen from ARTW 159, 231, 236, 240, 251, 260, 261, 262, 263, 264, 265, 266, 268, 269) and three electives, including at least one course at the 300 level (ARTW 360, 361, 362, 364, 366, 367, 371, 373, 382), allowing for advanced work in one or more genres of creative writing which are of particular interest to the student. The objective of the minor in Creative Writing is to provide both depth and range, through exposure to several genres of creative writing. Students should consult with the Creative Writing Program director by the end of their sophomore year to submit a plan for the minor in order to ensure admission to the appropriate range of courses.

Concentration in Creative Writing
English majors may elect a three-course concentration in Creative Writing as part of the English major program. Students interested in the concentration must meet with the Creative Writing Program director by the end of their sophomore year to submit a plan for the concentration and must also confirm the concentration with the chair of the English Department.

COURSES
ARTW B159 INTRODUCTION TO CREATIVE WRITING
Cynthia Reeves
This course is for students who wish to experiment with three genres of creative writing: short fiction, poetry and drama, and techniques specific to each of them. Priority will be given to interested first- and second-year students; additional spaces will be made available to upper-year students with little or no experience in creative writing. Students will write or revise work every week; roughly four weeks each will be devoted to short fiction, poetry, and drama. There will be individual conferences with the instructor to discuss their progress and interests. Half of class time will be spent discussing student work and half will be spent discussing syllabus readings. Approach: Critical Interpretation (CI). Spring 2017.

ARTW B240 LITERARY TRANSLATION WORKSHOP
Staff
Open to creative writing students and students of literature, the syllabus includes some theoretical readings, but the emphasis is practical and analytical. Syllabus reading includes parallel translations of certain enduring literary texts (mostly poetry) as well as books and essays about the art of translation. Literary translation will be considered as a spectrum ranging from Dryden’s “metaphrase” (word-for-word translation) all the way through imitation, adaptation, and reimagining. Each student will be invited to work with whatever non-English language(s) s/he has, and to select for translation short works of poetry, prose, or drama. The course will include class visits by working literary translators, The Italian verbs for “to translate” and “to betray” sound almost alike; throughout, the course concerns the impossibility and importance of literary translation. Approach: Critical Interpretation (CI). (Not Offered 2016-2017)

ARTW B260 WRITING SHORT FICTION I
Daniel Torday
An introduction to fiction writing, focusing on the short story. Students will consider fundamental elements of fiction and the relationship of narrative structure, style, and content, exploring these elements in their own work and in the assigned readings in order to develop an understanding of the range of possibilities open to the fiction writer. Weekly readings and writing exercises are designed to encourage students to explore the material and styles that most interest them, and to push their fiction to a new level of craft, so that over the semester their writing becomes clearer, more controlled, and more absorbing. Approach: Critical Interpretation (CI). (Fall 2016, Spring 2017)

ARTW B261 WRITING POETRY I
Dilruba Ahmed
In this course students will learn to “read like a writer,” while grappling with the work of accomplished poets, and providing substantive commentary on peers’ work. Through diverse readings, students will examine craft strategies at work in both formal and free verse poems, such as diction, metaphor, imagery, lineation, metrical patterns, irony, and syntax. The course will cover shaping forms (such as elegy and pastoral) as well as given forms, such as the sonnet, ghazal, villanelle, etc. Students will discuss strategies for conveying
the literal meaning of a poem (e.g., through sensory description and clear, compelling language) and the concealed meaning of a text (e.g., through metaphor, imagery, meter, irony, and shifts in diction and syntax). By the end of the course, students will have generated new material, shaped and revised draft poems, and significantly grown as writers by experimenting with various aspects of craft. Approach: Critical Interpretation (CI). (Fall 2016)

ARTW B262 PLAYWRITING I
Staff
An introduction to playwriting through a combination of reading assignments, writing exercises, discussions about craft and ultimately the creation of a complete one-act play. Students will work to discover and develop their own unique voices as they learn the technical aspects of the craft of playwriting. Short writing assignments will complement each reading assignment. The final assignment will be to write an original one-act play. Approach: Critical Interpretation (CI). (Not Offered 2016-2017)

ARTW B263 WRITING MEMOIR I
Staff
The purpose of this course is to provide students with practical experience in writing about the events, places and people of their own lives in the form of memoir. Emphasis will be placed on open-ended investigation into what we think we know (about ourselves and others) and how we think we came to know it. In addition to writing memoir of their own, and workshop discussions, students will also read and discuss works by writers such as Montaigne, Hazlitt, Freud, H.D., J.R. Ackerley, Georges Perec, and more contemporary writing by writers such as Akeel Bilgrami, Elif Batuman, Emily Witt, Lawrence Jackson. Although little mention will be made of the master narratives of American memoir—Christian redemption, confession, captivity, and slavery—the class will consistently struggle to come to terms with their foundational legacy in American life and letters. Approach: Critical Interpretation (CI). (Not Offered 2016-2017)

ARTW B264 NEWS AND FEATURE WRITING
Tom Ferrick
Students in this class will learn how to develop, report, write, edit and revise a variety of news stories, beginning with the basics of reporting and writing the news and advancing to longer-form stories, including personality profiles, news features and trend stories, and concluding with point-of-view journalism (columns, criticism, reported essays). The course will focus heavily on work published in The Philadelphia Inquirer and The New York Times. Several working journalists will participate as guest speakers to explain their craft. Students will write stories that will be posted on the class blog, the English House Gazette. Approach: Critical Interpretation (CI). (Fall 2016)

ARTW B265 CREATIVE NONFICTION
Daniel Torday
This course will explore the literary expressions of nonfiction writing by focusing on the skills, process and craft techniques necessary to the generation and revision of literary nonfiction. Using the information-gathering tools of a journalist, the analytical tools of an essayist and the technical tools of a fiction writer, students will produce pieces that will incorporate both factual information and first person experience. Readings will include a broad group of writers ranging from E.B. White to Anne Carson, George Orwell to David Foster Wallace, Joan Didion to James Baldwin, among many others. Approach: Critical Interpretation (CI). (Spring 2017)

ARTW B266 SCREENWRITING
Staff
An introduction to screenwriting. Issues basic to the art of storytelling in film will be addressed and analyzed: character, dramatic structure, theme, setting, image, sound. The course focuses on the film adaptation; readings include novels, screenplays, and short stories. Films adapted from the readings will be screened. In the course of the semester, students will be expected to outline and complete the first act of an adapted screenplay of their own. Approach: Critical Interpretation (CI). Counts towards: Film Studies. (Spring 2017)

ARTW B268 WRITING LITERARY JOURNALISM
Staff
This course will examine the tools that literary writers bring to factual reporting and how these tools enhance the stories they tell. Readings will include reportage, polemical writing and literary reviewing. The issues of point-of-view and
subjectivity, the uses of irony, forms of persuasion, clarity of expression and logic of construction will be discussed. The importance of context—the role of the editor and the magazine, the expectations of the audience, censorship and self-censorship—will be considered. Approach: Critical Interpretation (CI). (Not Offered 2016-2017)

ARTW B269 WRITING FOR CHILDREN
Cordelia Jensen
In this course, students have the opportunity to hone the craft of writing for children and young adults. Through reading, in-class discussion, peer review of student work, and private conferences with the instructor, we will examine the specific requirements of the picture book, the middle-grade novel, and the young adult novel. This analytical study of classic and contemporary literature will inspire and inform students' creative work in all aspects of storytelling, including character development, plotting, world building, voice, tone, and the roles of illustration and page composition in story narration. Approach: Critical Interpretation (CI). (Fall 2016)

ARTW B360 WRITING SHORT FICTION II
Annie Liontas
An exploration of approaches to writing short fiction designed to strengthen skills of experienced student writers as practitioners and critics. Requires writing at least five pages each week, workshopping student pieces, and reading texts ranging from realist stories to metafictional experiments and one-page stories to the short novella, to explore how writers can work within tight confines. Suggested preparation: ARTW B260 or work demonstrating equivalent expertise in writing short fiction. Students without the ARTW B260, must submit a writing sample of 10-15 pages in length (prose fiction) to the Creative Writing Program during the preregistration period to be considered for this course. (Fall 2016)

ARTW B361 WRITING POETRY II
J.C. Todd
This course assumes that reading and writing are inextricably linked, and that the only way to write intelligent and interesting poetry is to read as much of it as possible. Writing assignments will be closely connected to syllabus reading, including an anthology prepared by the instructor, and may include working in forms such as ekphrastic poems (i.e. poems about works of visual art or sculpture), dramatic monologues, prose poems, translations, imitations and parodies. Suggested preparation: ARTW B261 or work demonstrating equivalent familiarity with the basic forms of poetry in English. For students without ARTW B261, a writing sample of 5-7 poems must be submitted to the instructor to be considered for this course. (Spring 2017)

ARTW B362 PLAYWRITING II
Lauren Feldman
This course challenges students of playwriting to further develop their unique voices and improve their technical skills in writing for the stage. We will examine how great playwrights captivate a live audience through their mastery of character, story and structure. Through a combination of weekly reading assignments, playwriting exercises, theater explorations, artist-driven feedback, and discussions of craft, this class will facilitate each student’s completion of an original, full-length play. Prerequisite: ARTW 262; or suitable experience in directing, acting or playwriting; or submission of a work sample of 10 pages of dialogue. All students must complete the Creative Writing preregistration questionnaire during preregistration to be considered for the course. (Fall 2016)

ARTW B364 LONGER FICTIONAL FORMS
Daniel Torday
An advanced workshop for students with a strong background in fiction writing who want to write longer works: the long short story, novella and novel. Students will write intensively, and complete a long story, novel or novella (or combination thereof) totaling up to 20,000 words. Students will examine the craft of their work and of published prose. Suggested preparation: ARTW B260 or proof of interest and ability. For students without ARTW B260, students must submit a writing sample of 10-15 pages in length (prose fiction) to the Creative Writing Program during the preregistration period to be considered for this course. (Spring 2017)

ARTW B365 CREATIVE NONFICTION II
Staff
An exploration of approaches to writing personal essays and lyric essays designed to strengthen skills of experienced student essayists as practitioners and critics. Requires writing at least five pages each week, workshopping student essays, and reading texts ranging from long personal essays to book-
length essays, to explore how writers can work within the broader parameters of the long essay. Suggested preparation: ARTW B265 or work demonstrating equivalent expertise in writing personal and lyric essays. Students without the ARTW B265, must submit a writing sample of 10-15 pages in length (nonfiction prose) to the Creative Writing Program during the preregistration period to be considered for this course. (Not Offered 2016-2017)

ARTW B403 SUPERVISED WORK

Staff

Students who have had a Creative Writing Major approved through the Independent Major Program will work with a member of the Creative Writing Program faculty on a semester-long 403 (Independent Study) as a final project their senior year. Highly qualified Creative Writing minors and concentrators may petition the program to complete an independent study, subject to the availability of faculty to supervise such projects. (Fall 2016)

DANCE

Dance is not only an art and an area of creative impulse and action; it is also a significant and enduring human behavior that can serve as a core of creative and scholarly inquiry within the liberal arts. The program offers full semester courses in progressive levels of ballet, modern and jazz, as well as a full range of technique courses in diverse genres and various traditions. Several performance opportunities are available to students ranging from our Dance Outreach Ensemble, which travels to schools throughout the Philadelphia region, to our Spring Concert in which students work with professional choreographers or reconstructors and perform in our main stage theater. Students may also investigate the creative process in three levels of composition and choreography courses. We also offer lecture/seminar courses designed to introduce students to dance as a vital area of academic inquiry. These include courses that examine dance within western practices as well as courses that extend or locate themselves beyond those social or theatrical traditions.

Students can take single courses in dance, can minor in Dance, or complete a major through the independent major program. The core academic curriculum for the dance minor or independent major in dance includes intermediate or advanced technique courses, performance ensembles, dance composition, independent work, and courses in dance research or analysis.

Minor Requirements

Requirements for the Dance minor are six units of coursework: three required (ARTD B140, B142, and two .5 credit studio courses: one must be selected from among the following technique courses: 136-139, or any 200 or 300 level technique course; the second .5 credit course must be a technique course at the 200 or 300 level or selected from among the following performance ensembles: 345-350); three approved electives; and attendance at a prescribed number of performances/events. With the adviser’s approval, one elective in the minor may be selected from allied Tri-College departments.

Independent Major in Dance Requirements

The independent major requires 11 courses, drawn primarily from our core academic curriculum and including: ARTD 140 and one additional dance lecture/seminar course; ARTD 142 and one additional composition/choreography courses; one .5 technique course at the intermediate or advanced level each semester after declaring the major. Participation in a performance ensemble is highly recommended. The major also requires attendance at a prescribed number of performances/events, demonstration of basic writing competency in dance by taking two writing attentive or one writing intensive course in Dance or an approved allied program or department, and a senior capstone experience. With the adviser’s approval, two electives in the major may be selected from allied Tri-College departments. In both the minor and the major, students may choose to emphasize one aspect of the field, but must first consult with the dance faculty regarding their course of study.

Technique Courses and Performance Ensemble Courses

The Dance Program offers a full range of dance instruction including courses in ballet, modern, jazz, and African as well as techniques developed from other cultural art and social forms such as flamenco, Classical Indian, Polynesian hula, hip-hop, Latin social dance, and tap dance, among others. A ballet placement class is required for upper level ballet courses. Performance ensembles, choreographed or re-staged by professional artists, are by audition only and are given full concert support. The Dance
Outreach Ensemble tours regional schools. Technique courses ARTD 136-139, 230-232, 330-331, and most dance ensembles are offered for academic credit but all technique courses and ensemble courses may be taken for Physical Education credit instead (see both listings below).

### TECHNIQUE/ENSEMBLE COURSES FOR PE CREDIT

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
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<tbody>
<tr>
<td>PE B101</td>
<td>BALLET: BEGINNING TECHNIQUE</td>
</tr>
<tr>
<td>PE B102</td>
<td>BALLET: INTERMEDIATE TECHNIQUE</td>
</tr>
<tr>
<td>PE B103</td>
<td>BALLET: ADVANCED TECHNIQUE</td>
</tr>
<tr>
<td>PE B104</td>
<td>BALLET WORKSHOP</td>
</tr>
<tr>
<td>PE B105</td>
<td>MODERN: BEGINNING TECHNIQUE</td>
</tr>
<tr>
<td>PE B106</td>
<td>MODERN: INTERMEDIATE TECHNIQUE</td>
</tr>
<tr>
<td>PE B107</td>
<td>MODERN: ADVANCED TECHNIQUE</td>
</tr>
<tr>
<td>PE B108</td>
<td>JAZZ: BEGINNING TECHNIQUE</td>
</tr>
<tr>
<td>PE B110</td>
<td>JAZZ: INTERMEDIATE TECHNIQUE</td>
</tr>
<tr>
<td>PE B111</td>
<td>HIP-HOP TECHNIQUE</td>
</tr>
<tr>
<td>PE B112</td>
<td>AFRICAN DANCE</td>
</tr>
<tr>
<td>PE B116</td>
<td>SALSA</td>
</tr>
<tr>
<td>PE B117</td>
<td>CLASSICAL INDIAN DANCE</td>
</tr>
<tr>
<td>PE B118</td>
<td>MOVEMENT IMPROVISATION</td>
</tr>
<tr>
<td>PE B120</td>
<td>INTRO TO FLAMENCO</td>
</tr>
<tr>
<td>PE B121</td>
<td>TAP I</td>
</tr>
<tr>
<td>PE B122</td>
<td>INTRO TO SOCIAL DANCE</td>
</tr>
<tr>
<td>PE B123</td>
<td>TAP II</td>
</tr>
<tr>
<td>PE B125</td>
<td>SWING DANCE</td>
</tr>
<tr>
<td>PE B126</td>
<td>RHYTHM &amp; STYLE: FLAMENCO AND TAP</td>
</tr>
<tr>
<td>PE B127</td>
<td>SOCIAL DANCE FORMS: TOPICS</td>
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<tr>
<td></td>
<td>INTRO TO SOCIAL DANCE, SWING, SALSA</td>
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<tr>
<td>PE B129</td>
<td>THE GESTURE OF DANCE: CLASSICAL INDIAN AND</td>
</tr>
<tr>
<td></td>
<td>POLYNESIAN/HULA</td>
</tr>
<tr>
<td>PE B131</td>
<td>TAP: LEARNING AND PERFORMING</td>
</tr>
<tr>
<td>PE B145</td>
<td>DANCE ENSEMBLE: MODERN</td>
</tr>
<tr>
<td>PE B146</td>
<td>DANCE ENSEMBLE: BALLET</td>
</tr>
<tr>
<td>PE B147</td>
<td>DANCE ENSEMBLE: JAZZ</td>
</tr>
<tr>
<td>PE B148</td>
<td>DANCE ENSEMBLE: AFRICAN</td>
</tr>
<tr>
<td>PE B149</td>
<td>DANCE ENSEMBLE: OUTREACH</td>
</tr>
<tr>
<td>PE B150</td>
<td>DANCE ENSEMBLE: SPECIAL TOPICS (2016-17: STYLE TBA)</td>
</tr>
<tr>
<td>PE B195</td>
<td>MOVEMENT FOR THEATER</td>
</tr>
<tr>
<td>PE B196</td>
<td>DANCE COMPOSITION LAB</td>
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### COURSES FOR ACADEMIC CREDIT

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ARTD B136</td>
<td>INTRO TO DANCE TECHNIQUES I - MODERN</td>
</tr>
<tr>
<td>ARTD B137</td>
<td>INTRO TO DANCE TECHNIQUES I - BALLET</td>
</tr>
<tr>
<td>ARTD B138</td>
<td>INTRO TO DANCE TECHNIQUES II - MODERN</td>
</tr>
<tr>
<td>ARTD B139</td>
<td>INTRO TO DANCE TECHNIQUES II - BALLET</td>
</tr>
<tr>
<td>ARTD B140</td>
<td>APPROACHES TO DANCE: THEMES AND PERSPECTIVES</td>
</tr>
<tr>
<td>ARTD B142</td>
<td>DANCE COMPOSITION I</td>
</tr>
<tr>
<td>ARTD B145</td>
<td>DANCE: CLOSE READING</td>
</tr>
<tr>
<td>ARTD/ANTH B223</td>
<td>ANTHROPOLOGY OF DANCE (NOT OFFERED 2016-17)</td>
</tr>
<tr>
<td>ARTD B230</td>
<td>INTERMEDIATE TECHNIQUE</td>
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<tr>
<td>ARTD B231</td>
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<tr>
<td>ARTD B232</td>
<td>INTERMEDIATE TECHNIQUE</td>
</tr>
<tr>
<td>ARTD B240</td>
<td>DANCE HISTORY I: ROOTS OF WESTERN THEATER DANCE</td>
</tr>
<tr>
<td>ARTD B241</td>
<td>DANCE HISTORY II: A HISTORY OF CONTEMPORARY</td>
</tr>
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<td></td>
<td>WESTERN THEATER DANCE (NOT OFFERED 2016-17)</td>
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<tr>
<td>ARTD B242</td>
<td>DANCE COMPOSITION II</td>
</tr>
<tr>
<td>ARTD B250</td>
<td>PERFORMING THE POLITICAL BODY</td>
</tr>
<tr>
<td>ARTD B265</td>
<td>DANCE, MIGRATION AND EXILE (NOT OFFERED 2016-17)</td>
</tr>
<tr>
<td>ARTD/ANTH B310</td>
<td>PERFORMING THE CITY: THEORIZING BODIES IN SPACE (NOT OFFERED 2016-17)</td>
</tr>
<tr>
<td>ARTD B330</td>
<td>ADVANCED TECHNIQUE: MODERN</td>
</tr>
<tr>
<td>ARTD B331</td>
<td>ADVANCED TECHNIQUE: BALLET</td>
</tr>
<tr>
<td>ARTD B342</td>
<td>ADVANCED CHOREOGRAPHY</td>
</tr>
<tr>
<td>ARTD B345</td>
<td>DANCE ENSEMBLE: BALLET</td>
</tr>
<tr>
<td>ARTD B346</td>
<td>DANCE ENSEMBLE: MODERN</td>
</tr>
<tr>
<td>ARTD B347</td>
<td>DANCE ENSEMBLE: JAZZ</td>
</tr>
<tr>
<td>ARTD B348</td>
<td>DANCE ENSEMBLE: AFRICAN</td>
</tr>
<tr>
<td>ARTD B349</td>
<td>DANCE ENSEMBLE: OUTREACH</td>
</tr>
<tr>
<td>ARTD B350</td>
<td>DANCE ENSEMBLE: SPECIAL (2016-2017: STYLE TBA)</td>
</tr>
<tr>
<td>ARTD B390</td>
<td>SENIOR PROJECT/THESIS</td>
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ARTD B403 SUPERVISED WORK
ARTD B403 002 SUPERVISED WORK: ANATOMY FOR THE DANCER (NOT OFFERED 2016-17)
ARTA B251/EDUC B251 ARTS TEACHING IN EDUCATIONAL AND COMMUNITY SETTINGS (NOT OFFERED 2016-17)

COURSES
ARTD B136 INTRODUCTION TO DANCE TECHNIQUES I: MODERN
Linda Haviland, Madeline Cantor
Students enrolling in this course take one full semester of Beginning Modern Dance as their primary course and must contact the Dance Program to be placed in a second full semester technique course as well. The two courses together constitute .5 credit. The schedule for the second course options can be found on the Dance Program website: www.brynmawr.edu/dance/courses/schedule.html. Students must meet the attendance requirement; write a critique of one live dance event and a short paper on a topic selected in consultation with the faculty coordinator. In lieu of books, students may incur $10-30 in performance ticket fees but may take advantage of free Tri-Co performances. Offered on a Pass/Fail basis only. (Fall 2016, Spring 2017)

ARTD B137 INTRODUCTION TO DANCE TECHNIQUES I: BALLET
Linda Haviland, Madeline Cantor
Students enrolling in this course take one full semester of Beginning Ballet as their primary course and must contact the Dance Program to be placed in a second full semester technique course as well. The two courses together constitute .5 credit. The schedule for the second course options can be found on the Dance Program website: www.brynmawr.edu/dance/courses/schedule.html. Students must meet the attendance requirement; write a critique of one live dance event and a short paper on a topic selected in consultation with the faculty coordinator. In lieu of books, students may incur $10-30 in performance ticket fees but may take advantage of free Tri-Co performances. Offered on a Pass/Fail basis only. Prerequisite(s): ARTD 136 or 137. (Fall 2016, Spring 2017)

ARTD B138 INTRODUCTION TO DANCE TECHNIQUES II: MODERN
Linda Haviland, Madeline Cantor
Students enrolling in this course take one full semester of Beginning Modern Dance as their primary course and must contact the Dance Program to be placed in a second full semester technique course as well. The two courses together constitute .5 credit. The schedule for the second course options can be found on the Dance Program website: www.brynmawr.edu/dance/courses/schedule.html. Students must meet the attendance requirement; write a critique of one live dance event and a short paper on a topic selected in consultation with the faculty coordinator. In lieu of books, students may incur $10-30 in performance ticket fees but may take advantage of free Tri-Co performances. Offered on a Pass/Fail basis only. (Fall 2016, Spring 2017)

ARTD B139 INTRODUCTION TO DANCE TECHNIQUES II: BALLET
Linda Haviland
Students enrolling in this course take one full semester of Beginning Ballet as their primary course and must contact the Dance Program to be placed in a second full semester technique course as well. The two courses together constitute .5 credit. The schedule for the second course options can be found on the Dance Program website: www.brynmawr.edu/dance/courses/schedule.html. Students must meet the attendance requirement; write a critique of one live dance event and a short paper on a topic selected in consultation with the faculty coordinator. In lieu of books, students may incur $10-30 in performance ticket fees but may take advantage of free Tri-Co performances. Offered on a Pass/Fail basis only. Prerequisite(s): ARTD 136 or 137. (Fall 2016, Spring 2017)

ARTD B140 APPROACHES TO DANCE: THEMES AND PERSPECTIVES
Linda Haviland
This course introduces students to dance as a multi-layered, significant and enduring human behavior that ranges from art to play, from ritual to politics, and beyond. It engages students in the creative, critical, and conceptual processes that emerge in response to the study of dance. It also explores the research potential that arises when other areas of academic inquiry, including criticism, ethnology, history and philosophy, interact with dance and dance scholarship. Lectures, discussion, film, video, and guest speakers are included. In lieu of books, students must attend one dance performance (typical costs: $12-30) but may take
ARTS PROGRAM AT BRYN MAWR COLLEGE

ARTD B142 DANCE COMPOSITION I
David Brick
In this introduction to the art of making dances, an array of compositional tools and approaches is used to evolve and refine choreographic ideas. Basic concepts such as space, phrasing, timing, image, energy, density and partnering are introduced and explored alongside attention to the roles of inspiration and synthesis in the creative process. Improvisation is used to explore choreographic ideas and students learn to help and direct others in generating movement. Discussion of and feedback on weekly choreographic assignments and readings contributes to analyzing and refining choreography. Concurrent participation in any level technique course is required. Additional costs: in lieu of books, students may incur $30-$40 in performance ticket fees, but may take advantage of free Tri-co performances. Approach: Critical Interpretation (CI). (Fall 2016)

ARTD B145 FOCUS: DANCE/CLOSE READING
Madeline Cantor
Students will engage in a close reading of dance, using live dance performances as primary texts and setting these performances in critical and historical contexts through readings in dance criticism and theory, activities, discussion and media. Each week, students will apply their findings in organized field trips to live performances, selected from a range of genres, and will work through their responses in discussion and writing. Requires performance attendance on weekends. In lieu of books, students can expect approximately $50 in performance ticket expenses for the course. Approach: Critical Interpretation (CI). (Spring 2017)

ARTD B223 ANTHROPOLOGY OF DANCE
Staff
This course surveys ethnographic approaches to the study of global dance in a variety of contemporary and historical contexts, including contact improvisation, Argentinian tango, Kathak dance in Indian modernity, a range of traditional dances from Japan and China, capoeira in today's Brazil, and social dances in North America and Europe. Recognizing dance as a kind of shared cultural knowledge and drawing on theories and literature in anthropology, dance and related fields such as history, and ethnomusicology, we will examine dance's relationship to social structure, ethnicity, gender, spirituality and politics. Lectures, discussion, media, and fieldwork are included. Prerequisite(s): a course in anthropology or related discipline, or a dance lecture/seminar course, or permission of the instructor. Approach: Cross-Cultural Analysis (CC); Critical Interpretation (CI) Major Writing Requirement: Writing Attentive. (Not Offered 2016-2017)

ARTD B230 MODERN: INTERMEDIATE TECHNIQUE
Molly Shanahan
Intermediate level dance technique courses focus on expanding the movement vocabulary, on introducing movement phrases that are increasingly complex and demanding, and on further attention to motional dynamics and spatial contexts. Students at this level are also expected to begin demonstrating an intellectual and kinesthetic understanding of these technical challenges and their actual performance. Students will be evaluated on their openness and commitment to the learning process, increased understanding of the technique, and demonstration in class of their technical and stylistic progress as articulated within the field. Preparation: three semesters of beginning level modern, its equivalent, or permission of the instructor. (Fall 2016, Spring 2017)

ARTD B231 BALLET: INTERMEDIATE TECHNIQUE
Linda Mintzer
Intermediate level dance technique courses focus on expanding the movement vocabulary, on introducing movement phrases that are increasingly complex and demanding, and on further attention to motional dynamics and spatial contexts. Students at this level are also expected to begin demonstrating an intellectual and kinesthetic understanding of these technical challenges and their actual performance. Students will be evaluated on their openness and commitment to the learning process, increased understanding of the technique, and demonstration in class of their technical and stylistic progress as articulated within the field. Preparation: three semesters of beginning level ballet, its equivalent, or permission of the instructor. (Spring 2017)
instructor. (Fall 2016, Spring 2017)

**ARTD B232 JAZZ: INTERMEDIATE TECHNIQUE**
Staff
Intermediate level dance technique courses focus on expanding the movement vocabulary, on introducing movement phrases that are increasingly complex and demanding, and on further attention to motional dynamics and spatial contexts. Students at this level are also expected to begin demonstrating an intellectual and kinesthetic understanding of these technical challenges and their actual performance. Students will be evaluated on their openness and commitment to the learning process, increased understanding of the technique, and demonstration in class of their technical and stylistic progress as articulated within the field. Prerequisite(s): two semesters of beginning level jazz, its equivalent, or permission of the instructor. (Not Offered 2016-2017)

**ARTD B240 DANCE HISTORY I: ROOTS OF WESTERN THEATER DANCE**
Staff
This course investigates the historic and cultural forces affecting the development and functions of pre-20th-century Western theater dance. It will consider nontheatrical forms and applications as well, but will give special emphasis to the development of theater dance forms within the context of their relationship to and impact on Western culture. The course, of necessity, will give some consideration as well to the impact of global interchange on the development of Western dance. It will also introduce students to a selection of traditional and more contemporary models of historiography with particular reference to the changing modes of documenting, researching and analyzing dance. In addition to lectures and discussion, the course will include film, video, slides, and some movement experiences. Approach: Critical Interpretation (CI); Inquiry into the Past (IP). Major Writing Requirement: Writing Attentive. Counts towards: Gender and Sexuality Studies. (Not Offered 2016-2017)

**ARTD B242 DANCE COMPOSITION II**
Madeline Cantor
This course builds on work accomplished in Composition I and develops an understanding of and skill in the theory and craft of choreography. This includes deepening movement invention skills; exploring form and structure; investigating sources for sound, music, text and language; developing group design; and broadening critical understanding. Students will work on projects and will have some opportunity to revise and expand work. Readings and viewings will be assigned and related production problems will be considered. Concurrent participation in any level technique course is required. Additional costs: in lieu of books, students may incur $10-30 in performance ticket fees but may take advantage of free Tri-Co performances. Prerequisite(s): ARTD B142. Approach: Critical Interpretation (CI). (Spring 2017)

**ARTD B250 PERFORMING THE POLITICAL BODY: DANCE AND POWER**
Linda Haviland
This is a topics course. Course content varies. Approach: Cross-Cultural Analysis (CC); Critical Interpretation (CI). Major Writing Requirement: Writing Attentive. Counts towards: Gender and Sexuality Studies. Artists, activists, politicos, regents, intellectuals and just ordinary people have, throughout history and across cultures, used dance and performance to support political goals and ideologies or to perform social or cultural interventions in the private and public spheres. From a wide range of possibilities, we will focus on how dance is a useful medium for both embodying and analyzing ideologies and practices of power, particularly with reference to gender, class, and ethnicity. Students will also investigate bodiedness as an active agent of social change and political action. We will read excerpts from seminal and contemporary theory of performing bodiedness, ethnicity, and gender, as well as from theoreticians, performers, and other practitioners more specifically engaged with dance and performance. In addition to literary, dance historical, anthropological and political texts, the course includes media, guest lecturers, and introductory group improvisation and performance exercises; however, no prior training or experience in dance or performance is necessary. In lieu of books, students will be assigned to see a dance performance (typical costs: $12-30) but may take advantage of free Tri-Co performances. A previous dance lecture/seminar course or a course in a relevant discipline such as anthropology, sociology, or history is recommended but not required. (Fall
ARTS PROGRAM AT BRYN MAWR COLLEGE

ARTD B265 DANCE, MIGRATION AND EXILE

Staff

Highlighting aesthetic, political, social and spiritual powers of dance as it travels, transforms, and is accorded meaning both domestically and transnationally, especially in situations of war and social and political upheaval, this course investigates the re-creation of heritage and the production of new traditions in refugee camps and in diaspora. Prerequisite(s): a dance lecture/seminar course or a course in a relevant discipline such as anthropology, sociology, or Peace and Conflict Studies, or permission of the instructor. Approach: Cross-Cultural Analysis (CC); Critical Interpretation (CI). Major Writing Requirement: Writing Attentive. (Not Offered 2016-2017)

ARTD B310 PERFORMING THE CITY: THEORIZING BODIES IN SPACE

Staff

Building on the premise that space is a concern in performance, choreography, architecture and urban planning, this course will interrogate relationships between (performing) bodies and (city) spaces. Using perspectives from dance and performance studies, urban studies and cultural geography, it will introduce space, spatiality and the city as material and theoretical concepts and investigate how moving and performing bodies and city spaces intersect in political, social and cultural contexts. Lectures, discussion of assigned readings, attendance at a live performance and 2-3 field trips are included. Prerequisite(s): one dance lecture/seminar course or one course in relevant discipline e.g. cities, anthropology, sociology or permission of the instructor. Major Writing Requirement: Writing Attentive. (Not Offered 2016-2017)

ARTD B330 MODERN: ADVANCED TECHNIQUE

Rebecca Malcolm-Naib

Advanced level technique courses continue to expand movement vocabulary and to introduce increasingly challenging movement phrases and repertory. Students are also expected to begin recognizing and incorporating the varied gestural and dynamic markers of styles and genres, with an eye to both developing their facility for working with various choreographic models and for beginning to mark out their individual movement preferences. These courses continue to focus on both the intellectual and kinesthetic understanding and command of technical challenges and their actual performance. Preparation: two semesters of Modern: Intermediate Technique, its equivalent, or permission of the instructor. (Fall 2016, Spring 2017)

ARTD B331 BALLET: ADVANCED TECHNIQUE

Chandra Moss, R. Colby Damon

Advanced level technique courses continue to expand movement vocabulary and to introduce increasingly challenging movement phrases and repertory. Students are also expected to begin recognizing and incorporating the varied gestural and dynamic markers of styles and genres, with an eye to both developing their facility for working with various choreographic models and for beginning to mark out their individual movement preferences. These courses continue to focus on both the intellectual and kinesthetic understanding and command of technical challenges and their actual performance. The last half hour of this class includes optional pointe or repertory work with permission of the instructor. Preparation: minimum of three semesters of intermediate level ballet, its equivalent, or permission of the instructor. First year students must take a placement class. (Fall 2016, Spring 2017)

ARTD B342 ADVANCED CHOREOGRAPHY

Linda Haviland, Madeline Cantor

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. Concurrent attendance in any level technique course is required. Prerequisite(s): ARTD B242. (Fall 2016, Spring 2017)

ARTD B345 DANCE ENSEMBLE: MODERN

Madeline Cantor

Dance ensembles are designed to offer students significant opportunities to develop dance technique, particularly in relationship to dance as a performance art. Students audition for entrance into individual ensembles. Original works choreographed by faculty or guest choreographers or works reconstructed/restaged from classic or...
ARTS PROGRAM AT BRYN MAWR COLLEGE

contemporary repertories are rehearsed and performed in concert. Students are evaluated on their participation in rehearsals, their demonstration of full commitment and openness to the choreographic and performance processes both in terms of attitude and technical practice, and their achieved level of performance. This course is suitable for intermediate and advanced level dancers. Concurrent attendance in one technique class a week is required. (Fall 2016, Spring 2017)

ARTD B346 DANCE ENSEMBLE: BALLET
Staff
Dance ensembles are designed to offer students significant opportunities to develop dance technique, particularly in relationship to dance as a performance art. Students audition for entrance into individual ensembles. Original works choreographed by faculty or guest choreographers or works reconstructed/restaged from classic or contemporary repertories are rehearsed and performed in concert. Students are evaluated on their participation in rehearsals, their demonstration of full commitment and openness to the choreographic and performance processes both in terms of attitude and technical practice, and achievement of expected levels of performance. This course is suitable for intermediate and advanced level dancers. Concurrent attendance in at least one technique class per week is required. (Spring 2017)

ARTD B347 DANCE ENSEMBLE: JAZZ
Staff
Dance ensembles are designed to offer students significant opportunities to develop dance technique, particularly in relationship to dance as a performance art. Students audition for entrance into individual ensembles. Original works choreographed by faculty or guest choreographers or works reconstructed/restaged from classic or contemporary repertories are rehearsed and performed in concert. Students are evaluated on their participation in rehearsals, their demonstration of full commitment and openness to the choreographic and performance processes both in terms of attitude and technical practice, and achievement of expected levels of performance. This course is suitable for intermediate and advanced level dancers. Concurrent attendance in at least one technique class per week is required. (Spring 2017)

ARTD B348 DANCE ENSEMBLE: AFRICAN
Staff
Dance ensembles are designed to offer students significant opportunities to develop dance technique, particularly in relationship to dance as a performance art. Students audition for entrance into individual ensembles. Original works choreographed by faculty or guest choreographers or works reconstructed/restaged from classic or contemporary repertories are rehearsed and performed in concert. Students are evaluated on their participation in rehearsals, their demonstration of full commitment and openness to the choreographic and performance processes both in terms of attitude and technical practice, and achievement of expected levels of performance. This course is suitable for intermediate and advanced level dancers. Concurrent attendance in at least one technique class per week is suggested. (Fall 2016)

ARTD B349 DANCE ENSEMBLE: DANCE OUTREACH PROJECT
Madeline Cantor
Dance Outreach Ensemble is a community-focused project in which students learn both a lecture-demonstration and a narrative dance work and tour this combined program to schools every fall in the Philadelphia area, reaching 1,500 to 2,000 children each year. Dance Outreach introduces these children to dance through a program of original choreography that is supported by commissioned music and costuming as well. Interested students are expected to have some experience in a dance form or genre, enthusiasm for performance, and an interest in education in and through the arts. Students are selected after an initial group meeting and movement session in the fall. Concurrent participation in at least one technique class per week is suggested. (Fall 2016)

ARTD B350 DANCE ENSEMBLE: SPECIAL TOPICS
This is a topics course. The genre or style content of this ensemble varies. Units: 0.5 Spring 2017: Hip Hop. Dance ensembles are designed to offer students significant opportunities to develop dance technique, particularly in relationship to dance as a performance art. Students audition for entrance into individual ensembles. Original works choreographed by faculty or guest choreographers or works reconstructed / restaged from classic or contemporary repertories are rehearsed and

Haverford College Catalog 2016-2017
performed in concert. Students are evaluated on their participation in rehearsals, their demonstration of full commitment and openness to the choreographic and performance processes both in terms of attitude and technical practice, and achievement of expected levels of performance. This course is suitable for intermediate and advanced level dancers. Concurrent attendance in at least one technique class per week is suggested.

**ARTD B390 SENIOR PROJECT/THESIS**

*Staff*

Majors develop, in conjunction with a faculty adviser, a senior capstone experience that is complementary to and will expand and deepen their work and interests within the field of dance. This can range from a significant research or expository paper to a substantial choreographic work that will be supported in a full studio performance. Students who elect to do choreographic or performance work must also submit a portfolio (10 pages) of written work on dance. Work begins in the fall semester and should be completed by the middle of the spring semester. One outside evaluator will be invited to offer additional comment. (Fall 2016, Spring 2017)

**ARTD B403 SUPERVISED WORK**

*Staff*

Research in a particular topic of dance under the guidance of an instructor, resulting in a final paper or project. Permission of the instructor is required. (Fall 2016, Spring 2017)

**THEATER**

The curricular portion of the Bryn Mawr and Haverford Colleges’ Theater Program focuses on the point of contact between creative and analytic work. Courses combine theory (reading and discussion of dramatic literature, history and criticism) and practical work (creative exercises, scene study and performance) to provide viable theater training within a liberal-arts context.

**Minor Requirements**

Requirements for the minor in Theater are six units of course work, three required (ARTT 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. Students may submit an application to major in Theater through the independent major program.

**Theater Performance**

Numerous opportunities exist to act, direct, design and work in technical theater. In addition to the Theater Program’s mainstage productions, many student theater groups exist that are committed to musical theater, improvisation, community outreach, Shakespeare, film and video work, etc. All Theater Program productions are open and casting is routinely blind with respect to race and gender.

**COURSES**

**ARTT B151 FOCUS: DRAMATIC STRUCTURES IN PLAYS, PERFORMANCE, AND FILM**

*Staff*

This course is an introduction to techniques of dramatic structure that are used in the creation of plays, works of performance art, and films. We will have recourse in our work to some crucial theoretical documents as well as to play scripts both classic and contemporary and archived and live performances. Participants will make critical readings of works using the techniques of artistic analysis utilized by directors, dramaturgs, actors, playwrights and designers. This course is intended to be a touchstone for the study of any of these creative pursuits as well as an excellent opportunity for interested students to acquaint themselves with critical aspects of the creative process. Approach: Critical Interpretation (CI). (Not Offered 2016-2017)

**ARTT B152 FOCUS: WRITING ABOUT THEATER AND PERFORMANCE**

*Staff*

This course will constitute an introduction to writing about theater and performance art events. Our work will be structured in relation to a number of live and archived performances which the class will see on and off-campus. Students will practice techniques for preparing to see a performance, discuss strategies for reading dramatic texts and for observing time-based art. We will read notable examples of occasional criticism by a diverse group of writers of the past fifty years, who publish in a wide variety of forms including on blogs and social media. We will examine their work for techniques and strategies. Students will also read and respond to each other’s writing. Central questions of the course include the evolution of critical vocabulary, the role of the critic’s bias, the development of a
ARTS PROGRAM AT BRYN MAWR COLLEGE


ARTT B251 FUNDAMENTALS OF ACTING
Catherine Slusar
This studio course provides an introduction to the basic processes of acting to students of various experience levels. We develop tools and a shared vocabulary using performance exercises, games, improvisation and scene work. (Fall 2016)

ARTT B254 FUNDAMENTALS OF THEATER DESIGN
Maiko Matsushima
An introduction to the creative process of visual design for theater, exploring dramatic context and influence of cultural, social, and ideological forces on theater and examining practical applications of various technical elements such as scenery, costume, and lighting while emphasizing their aesthetic integration. (Spring 2017)

ARTT B255 FUNDAMENTALS OF COSTUME DESIGN
Maiko Matsushima
Hands-on practical workshop on costume design for performing arts; analysis of text, characters, movement, situations; historical and stylistic research; cultivation of initial concept through materialization and plotting to execution of design. (Fall 2016)

ARTT B258 INTERMEDIATE TOPICS IN TECHNICAL THEATER PRODUCTION
Justin McDaniel
This course is a deeper exploration of the process of technical theater production introduced in ARTT B252—Fundamentals of Technical Theater Production. Through a combination of lecture, in-class and out-of-class analysis, and hands-on experience students will gain a more thorough understanding of the processes of technical theatrical production. The course focuses on five sections of technical production: basic technical drawing, advanced scenic construction techniques, electricity for the entertainment industry (lighting, sound, motors), basic rigging, and basic sound system design and execution. While mathematics is not the focus of the class, basic math and some algebra and trigonometry will be necessary. Prerequisite(s): ARTT B252 or permission of instructor. (Fall 2016)

ARTT B265 ACTING ACROSS CULTURE
Staff
This course examines how we access Shakespeare across culture and across language, as performers and audience members. We will explore the role of creator/performer using traditional and non-traditional means (text work and scansion, investigation of objective and actions, and first-folio technique). Prerequisite(s): Fundamentals of Acting or its equivalent. Approach: Cross-Cultural Analysis (CC). (Not Offered 2016-2017)

ARTT B312 LADIES’ VOICES GIVE PLEASURE: PLAYS BY WOMEN
J. Rizzo
This course introduces students to the rich and multifarious tradition(s) of dramatic literature (broadly construed) by women (broadly construed). Through close readings of texts that diverge from what some feminist critics have called the dominant “ejaculatory” model of dramaturgy rooted in Aristotelian teleology and replicative of the male sexual experience, we will explore the formal and thematic preoccupations of 20th and 21st century playwrights who complicate notions of desire, community, history, identity, difference, and representation. Prerequisite(s): 200 level course in Theater, English, or Comparative Literature. (Fall 2016)

ARTT B332 THE ACTOR CREATES: PERFORMANCE STUDIO IN Generating ORIGINAL WORK
Catherine Slusar
This course explores the actor as creator, inviting the performer to become a generative artist with agency to invent her own work. Building on skills introduced in Fundamentals of Acting, we will introduce new methodologies of training to construct a framework in which students can approach making original solo and group work. Students will use processes employing visual art, found dialogue, music, autobiography, and more. Emphasizing guided, individual, and group collaboration, we will examine the role of the actor/creator through exercises and readings that relate the actor’s creative process to an understanding of self and the artist’s role in communities. Prerequisite(s): ARTT B251 (Fundamentals of Acting). (Fall 2016)
ARTT B353 ADVANCED PERFORMANCE ENSEMBLE  
Catherine Slusar
An advanced, intensive workshop in theater performance. Students explore a range of performance techniques in the context of rehearsing a performance project, and participate in weekly seminars in which the aesthetic and theatrical principles of the play and production will be developed and challenged. The course may be repeated. Prerequisite(s): ARTT B253 or permission of the instructor. (Fall 2016, Spring 2017)

ARTT B354 SHAKESPEARE ON THE STAGE  
Staff
An exploration of Shakespeare’s texts from the point of view of the performer. A historical survey of the various approaches to producing Shakespeare from Elizabethan to contemporary times, with intensive scenework culminating in on-campus performances. (Not Offered 2016-2017)

ARTT B359 DIRECTING FOR THE STAGE  
Dawn Lord
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. Prerequisite(s): ARTT B251 (Fundamentals of Acting) or permission of instructor. (Fall 2016)

ARTT B425 PRAXIS III  
(Not Offered 2016-2017)

ARTT B430 PRACTICUM IN STAGE MANAGEMENT  
Justin McDaniel
Over the semester, the student will attend all auditions, rehearsals, and performances of the Bi-College Theater Program production, and will be responsible for managing all the details of same. With the guidance of a mentor and through reading and research, the student will learn to perform the many organizational and communications tasks involved in stage management. Students will be required to read a number of texts with the goal of understanding the vast scope of the job, the artistry and authority expected of a stage manager, the variations in styles of stage management, and the standard procedures a student stage manager can incorporate into a college setting. Each student will be expected to keep a daily journal of their experience—intellectual, artistic, and practical. The journal is their own and is meant to stimulate and deepen their thinking about the process. This practicum requires that a student be willing to engage in the production process both as an artist with an intellectual stake in the work and as an adult with a position of real authority in the group. The student will be expected to use that authority while always remaining calm, polite, kind, and generous to the artists with whom they are working. Prerequisite(s): prior academic work in theater and the permission of the instructor. (Fall 2016, Spring 2017)

ARTA B251 ARTS TEACHING IN EDUCATIONAL AND COMMUNITY SETTINGS  
Staff
This is a Praxis II course intended for students who have substantial experience in an art form and are interested in extending that experience into teaching and learning at educational and community sites. Following an overview of the history of the arts in education, the course will investigate underlying theories. The praxis component will allow students to create a fluid relationship between theory and practice through observing, teaching and reflecting on arts practices in educational contexts. School or community placement four hours a week. Prerequisite(s): at least an intermediate level of experience in an art form. This course counts toward the minor in Dance or Theater. Counts towards: Praxis Program (Not Offered 2016-2017)

ARTT B250 TWENTIETH-CENTURY THEORIES OF ACTING  
Staff
An introduction to 20th-century theories of acting 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. (Not Offered 2016-2017)
ARTT B252 FUNDAMENTALS OF TECHNICAL THEATER

Justin McDaniel
A practical, hands-on workshop in the creative process of turning a concept into a tangible, workable end through the physical execution of a design. Exploring new and traditional methods of achieving a coherent synthesis of all areas of technical production. (Spring 2017)

ARTT B253 PERFORMANCE ENSEMBLE

Catherine Slusar
An intensive workshop in the methodologies and aesthetics of theater performance, this course is open to students with significant experience in performance. In collaboration with the director of theater, students will explore a range of performance techniques and styles in the context of rehearsing a performance project. Admission to the class is by audition or permission of the instructor. The class is offered for a half-unit of credit. (Fall 2016, Spring 2017)

ARTT B270 ECOLOGIES OF THEATER: PERFORMANCE, PLAY, AND LANDSCAPE

Staff
Students in this course will investigate the notion of theatrical landscape and its relation to plays and to the worlds that those landscapes refer to. Through readings in contemporary drama and performance and through the construction and evaluation of performances, the class will explore the relationship between human beings and the environments they imagine, and will study the ways in which those relationships impact how we think about our relationship to the world in which we live. The course will culminate in a series of public performances. Suggested preparation: Any course in theater, design, film, dram, or permission of the instructor. Approach: Critical Interpretation (CI). (Not Offered 2016-2017)

ARTT B351 ACTING II

Catherine Slusar
A continuation of the methods of inquiry in Fundamentals of Acting, this course is structured as a series of project-based learning explorations in acting. Prerequisite(s): ARTT B251 (Fundamentals of Acting) or permission of instructor. (Spring 2017)

ARTT B403 SUPERVISED WORK

(Fall 2016, Spring 2017)
The range of astronomical phenomena is vast—from the Big Bang origin of the universe, to the death throes of collapsing stars, to the rings of Saturn. The curriculum of the Astronomy Department is based on the study of these systems and of their evolution. Any study of astronomy is enriched by a firm understanding of the physics underlying these phenomena. Our curriculum is shaped to provide both astronomy and astrophysics majors with a solid foundation in the basic principles of both astronomy and physics, an understanding of the most recent developments in astronomy and cosmology, and the inspiration to pursue further learning in the sciences.

Entry to either major is through a pair of courses that survey all major areas of modern astrophysics: ASTR 205 and 206. These are typically taken in the sophomore year, to allow students to build a foundation in physics (our majors require physics courses, as explained below). We also offer a number of more focused, upper level courses on specific topics in astronomy, including one on observational techniques. Some of these reflect the research interests of our faculty.

Student research is a vital part of both majors. Our faculty work at the cutting edge of modern astronomy and cosmology, creating exceptional research opportunities for majors. Some of those opportunities are based on campus, within the College’s William J. Strawbridge Observatory, equipped with telescopes and powerful computer facilities. Other opportunities lie off-campus through the department’s alliances with national and private observatories, including Kitt Peak in Arizona and the Simons Observatory in Chile.

LEARNING GOALS
The courses offered in the Astronomy Department address a variety of learning goals:

- Knowledge of the contents of the extraterrestrial universe, including planets, stars, galaxies, and the large-scale structure of the universe itself, and understanding the formation and evolution of all of these.
- Problem-solving skills: like physics, astronomy emphasizes the understanding the physical world in terms of physical laws, an endeavor that is validated by applying these mathematical laws to a variety of astrophysical phenomena and then solving the resulting mathematical problem in order to verify the subsequent predictions with observations.
- Constructing models: the construction of models to describe natural phenomena and astronomy represents the most creative aspect of any science.
- Developing physical intuition: the ability to look at a complicated system and know what’s important.
- Computer programming.
- Observing skills in using a variety of astronomical instruments and techniques.
- Research experience, which involves:
  - confronting the unknown and tolerating its ambiguity.
  - generating new science with which to understand new observations.
  - analyzing data.
  - the art of scientific collaboration.
  - oral and written communication of new results.
  - designing new experiments/observations, and networking with other scientists to possibly generate new collaborative efforts.

CURRICULUM
Introductory Courses
From time to time, the department offers three courses, ASTR 101A, ASTR 112, and ASTR 114B, which student can take with no prerequisites or prior experience in astronomy. These are intended primarily for non-science students.

The department also offers a half-credit course, ASTR/PHYS 152, for first-year students who are considering a physical science major and wish to study some of the most recent developments in astrophysics.

Major Programs
Our department offers two majors: astronomy and astrophysics. Both majors provide substantial training in quantitative reasoning and independent thinking through work in and out of the classroom. The department also offers a minor in astronomy.

- The astronomy major is appropriate for students who desire an in-depth education in astronomy that can be applied to a wide-range
of career trajectories, but who do not necessarily intend to pursue graduate study in astronomy.

• The astrophysics major is appropriate for students who wish to pursue the study of astronomy with additional attention to the physical principles that underlie astrophysical phenomena. The depth of the physics training required for a degree in astrophysics will prepare students who wish to pursue a career in astronomy or astrophysics, or to do graduate study in astronomy or astrophysics.

Although a variety of pathways can lead to a major in the department, we advise prospective astronomy or astrophysics majors to:

• study physics (PHYS 105 or 115 and 106, or PHYS 101 and 102, or Bryn Mawr equivalents), beginning in their first year.
• enroll in ASTR 205/206 and PHYS 213/214 in their sophomore year.
• take ASTR/PHYS 152 in the second semester of their first year.

Students may major in astronomy or astrophysics, but not both. Astrophysics majors may not double major in either physics or astronomy, nor can they minor in either physics or astronomy. Astronomy majors may pursue a double major or a minor in physics.

MAJOR REQUIREMENTS

Astronomy Major Requirements
The astronomy major is appropriate for students that desire an in-depth education in astronomy that can be applied to a wide-range of career trajectories, but who do not necessarily intend to pursue graduate study in astronomy.

• PHYS 105 (or 101 or 115), PHYS 106 (or 102), PHYS 213, PHYS 214.
• Two mathematics courses; MATH 121 and all 200-level or higher mathematics courses can be used to satisfy this requirement.
• ASTR 205, ASTR 206, four 300-level astronomy courses, one of which may be replaced by an upper-level physics course. Majors can substitute 100-level Swarthmore astronomy seminars for 300-level astronomy courses.
• ASTR 404, which may be replaced by approved independent research either at Haverford or elsewhere.
• Written comprehensive examinations.

Bryn Mawr equivalents may be substituted for the non-astronomy courses. ASTR/PHYS 152 is recommended but not required.

Astrophysics Major Requirements
The astrophysics major is appropriate for students who wish to pursue the study of astronomy with additional attention to the physical principles that underlie astrophysical phenomena. The depth of the physics training required for a degree in astrophysics will prepare students who wish to pursue a career in astronomy or astrophysics, or to enter graduate study in astronomy or astrophysics.

• PHYS 105 (or 115 or 101), PHYS 106 (or 102), PHYS 213, PHYS 214, PHYS 211 (usually taken concurrently with PHYS 213).
• Two mathematics courses. MATH 121 and all 200-level or higher mathematics courses can be used to satisfy this requirement.
• ASTR 205, ASTR 206, and any two 300-level astronomy courses. Majors can substitute 100-level Swarthmore astronomy seminars for 300-level astronomy courses.
• PHYS 302, PHYS 303, and PHYS 309.
• The Senior Seminar, PHYS 399, including a talk and senior thesis on research conducted by the student. This research can be undertaken in a 400-level research course with any member of the physics or astronomy departments or by doing extracurricular research at Haverford or elsewhere, e.g., an approved summer research internship at another institution. The thesis is to be written under the supervision of both the research adviser and a Haverford adviser if the research adviser is not a Haverford faculty member.

Bryn Mawr equivalents may be substituted for the non-astronomy courses. ASTR/PHYS 152 and PHYS 308 are recommended but not required.

MINOR REQUIREMENTS

• PHYS 105 (or 115 or 101); PHYS 106 (or 102).
• ASTR 205; ASTR 206; one 300-level astronomy course. Minors may substitute a 100-level Swarthmore astronomy seminar for the 300-level astronomy course.

We strongly recommend (but do not require) ASTR/PHYS 152.

SENIOR PROJECT
A noted above, we offer two majors: astronomy and
ASTRONOMY

astrophysics. The senior project and requirements differ for the two.

**Astronomy Major**
For many decades, the capstone work for seniors majoring in astronomy (not astrophysics) has been a set of three, three-hour, comprehensive examinations covering all of astronomy. Students are given some choice in which questions to answer. We emphasize that the questions on these written examinations are likely to address topics of current prominence or interest in the field, whether or not they have been covered in our courses. In a year marked by new discoveries about a particular planet, for instance, we might ask for a summary of the scientific findings even though our curriculum barely touches planetary science.

**Astrophysics Major**
Coursework prior to the senior year provides students' primary preparation for their thesis work. As outlined in our program’s educational goals, this coursework emphasizes: knowledge of the extraterrestrial universe, problem solving skills, constructing models, developing physical intuition, computer programming, observing skills, and research-like inquiry. Students also gain experience with oral and written communication of complex scientific topics in their introductory physics labs and in upper level coursework, including ASTR 341. During group research meetings, students provide weekly oral reports to each other on their thesis progress and receive ongoing support and instruction from faculty.

To pull together the many elements that make up the senior year in the astrophysics major, students are required to participate in a year-long seminar course, PHYS 399. At the approximately biweekly meetings, students and some departmental faculty gather around a table to discuss topics running the gamut from scientific ethics to how to give a scientific talk or write a scientific research paper. Further details on this course are contained in the description of senior year work in physics.

The most important part of the senior seminar remains the senior paper and the senior presentations. We assess students by their performance on a short talk and the draft of the background section of their thesis during the fall semester, a comprehensive talk or poster presentation in the spring semester and a senior thesis (typically 25-50 pages, including figures and references), written in the form of a scientific paper. Frequently, this leads to a publication in a peer-reviewed journal.

**Senior Project Learning Goals**
A noted above, we offer two majors: astronomy and astrophysics. While the senior year work differs for the two, the learning goals are closely similar.

**Astronomy Major**
The goal of the comprehensive exams in astronomy is primarily to assess seniors’ grasp of the full extent of their chosen field of study, and secondarily to provide a summary reminder of the field. For students, the comprehensive exams are thus both an evaluative assessment, and to a lesser extent a formative experience. The exams offer the departmental faculty a last chance to lay out the nature of astronomy, both for students planning further study in the field or for those leaving astronomy behind.

As the capstone experience for senior majors in astronomy, the comprehensives are entirely separate from a student’s research experience—unlike the case for majors in astrophysics. Both astronomy and astrophysics majors, however, are required to undertake senior research either on campus or off campus, perhaps in a summer REU experience. For astrophysics majors, this research is central to the senior experience (see below). For astronomy majors, on the other hand, senior research and the comprehensives are decoupled: the former stresses depth; the latter breadth.

**Astrophysics Major**
The Haverford astrophysics senior thesis project extends through at least an entire academic year, with many students starting their thesis research during the summer before their senior year. The thesis thus requires students to engage in focused work, towards a single goal, for a substantial time period. We aim for students to develop deep topical expertise in a single subfield of astrophysics, and to develop technical expertise in one of the analysis techniques common to that field (often computational data analysis). Students learn to ask good questions of others and themselves, in pursuit of a deeper understanding of a previously unsolved question about the natural world.

Students are expected to place their senior research work in the context of the scientific literature in their field of study, and to present their results to
an audience of professionals (for their thesis) and their peers (for the talk or poster). They are given training in searching and reading the scientific literature by each research supervisor, as well as specific materials through the senior seminar course.

More than is the case in any other undergraduate curricular engagement, students must learn how to be independent and self-motivated to complete their thesis work. This style of scientific inquiry also imbibes a realistic sense of professional scientific research in students and increases their grit.

Senior Project Assessment
A noted above, we offer two majors: astronomy and astrophysics. Assessment of the senior year work differs for the two.

Astronomy Major
The comprehensives are read and graded by all astronomy faculty. They are graded on a numerical 1-10 scale for each problem, not the usual Haverford 4.0 scale. While performance on astronomy comprehensive exams is not recorded on a student’s transcript, students must pass the exams in order to graduate with an astronomy major.

Comprehensive results are also the primary determinant of departmental honors for astronomy majors. High honors are awarded to students who:

• demonstrate clear mastery of the field, including both topics central to our curriculum and those not.
• are able to situate their responses in a wider context of astrophysics or science in general.
• show an understanding of research fields not covered in our curriculum.
• display some originality in their responses, evidence that they “own” the material.

Regular departmental honors again require mastery and a sense of context, with less emphasis on originality.

While the emphasis of comprehensives is on the first two of the departmental learning goals (“knowledge of the extraterrestrial universe” and “problem-solving skills”), we also look for evidence that other goals have been met, including “scientific intuition” and written communication skills.

Astrophysics Major
As noted, each senior’s thesis culminates in both a written and an oral component. The written thesis is carefully read and evaluated by two faculty readers.

The thesis research itself is evaluated for (i) a demonstrated understanding of the context and content of the research (including a review of the relevant scientific literature), (ii) independent problem solving and synthesis, and (iii) success in understanding the forward looking implications of the research.

The written and oral presentations of the research are evaluated for (i) a clear and appropriate writing style and (ii) well-curated and well-presented visual displays of the research results.

Requirements for Honors
All astronomy and astrophysics majors are regarded as candidates for honors. For both majors, the award of honors will be made in part on the basis of superior work in the departmental courses and in certain related courses. For astronomy majors, the award of honors will additionally be based on performance on the comprehensive examinations, with consideration given for independent research. For astrophysics majors, the award of honors will additionally be based on the senior thesis and talk.

Scientific Computing Concentration
The Concentration in Scientific Computing gives students an opportunity to develop a basic facility with the tools and concepts involved in applying computation to a scientific problem, and to explore the specific computational aspects of their own major disciplines.

For more information about the scientific computing concentration and its requirements, please see the program’s website (haverford.edu/scientific-computing) or Catalog entry.

Special Programs
In 2010, Haverford became a member of the 0.9m telescope at Tucson’s Kitt Peak National Observatory (noao.edu/0.9m) consortium, and in 2013 we became a member of the Northeast Astronomy Participation Group’s partnership with

Haverford College Catalog 2016-2017
the ARC 3.5m telescope at Apache Point Observatory (apo.nmsu.edu) in New Mexico. We offer all Haverford astronomy and astrophysics majors the opportunity to obtain astronomical observations at one of these research facilities in Tucson or Apache Point.

Haverford is also part of the KNAC eight-college consortium (astro.swarthmore.edu/knac) that provides research assistantships for a summer student exchange program, grants for student travel to outside observatories, and a yearly symposium at which students present their research.

FACILITIES
See the departmental web page for a description of laboratories, equipment and other special facilities for this program.

FACULTY
Beth Willman (on leave 2016-2017)
Associate Professor of Astronomy

Desika Narayanan
Assistant Professor of Astronomy

Paul Thorman
Visiting Assistant Professor and Laboratory Instructor in Physics

Bruce Partridge
Bettye and Howard Marshall Professor of Natural Sciences and Professor of Astronomy Emeritus

COURSES
ASTRH101 ASTRONOMICAL IDEAS
Bruce Partridge
Fundamental concepts and observations of modern astronomy, such as the properties of planets, the birth and death of stars, and the properties and evolution of the Universe. Not intended for students majoring in the physical sciences. At least 30 spaces will be reserved for freshmen, perhaps more as space dictates. Quantitative (QU); Natural Science (NA)

ASTRH152 FIRST-YEAR SEMINAR IN ASTROPHYSICS
Staff
This half-credit course is intended for prospective physical science majors with an interest in recent developments in astrophysics. Topics in modern astrophysics will be viewed in the context of underlying physical principles. Topics include black holes, quasars, neutron stars, supernovae, dark matter, the Big Bang, and Einstein's relativity theories. Crosslisted: Physics; Prerequisite(s): PHYS 101A, 105A or 115A, and concurrent enrollment in PHYS 102B or 106B (or Bryn Mawr equivalents); Natural Science (NA)

ASTRH205 INTRODUCTION TO ASTROPHYSICS I
Desika Narayanan
General introduction to astronomy including: the structure and evolution of stars; the properties and evolution of the solar system including planetary surfaces and atmospheres; exoplanets; and observational projects using the Strawbridge Observatory telescopes. Natural Science (NA)

ASTRH206 INTRODUCTION TO ASTROPHYSICS II
Staff
Introduction to the study of: the structure and formation of the Milky Way galaxy; the interstellar medium; the properties of galaxies and their nuclei; and cosmology including the Hot Big Bang model. Prerequisite(s): ASTR 205A and MATH 114B or equivalent (or consent); Natural Science (NA)

ASTRH341 ADVANCED TOPICS: OBSERVATIONAL ASTRONOMY
Paul Thorman
Observing projects that involve using a CCD camera on a 16-inch Schmidt-Cassegrain telescope. Projects include spectroscopy; variable star photometry; H-alpha imaging; imaging and photometry of galaxies and star clusters; instruction in the use of image processing software and CCD camera operation. Students work in groups of two with minimal faculty supervision. Formal reports are required. Natural Science (NA)

ASTRH344 ADVANCED TOPICS: COMPUTATIONAL ASTROPHYSICS
Desika Narayanan
This course will survey general methods utilized in computational physics and astrophysics. The course will focus on coding techniques, numerical recipes, and both abstract and practical concepts in utilizing computers to solve physical problems. No prior coding experience is necessary. Prerequisite(s): PHYS 214. Typically offered in alternate years; Crosslisted: Physics; Natural Science (NA)
ASTRONOMY

ASTRH343 ADVANCED TOPICS:
COSMOLOGY AND EXTRAGALACTIC
ASTRONOMY
Desika Narayanan
The study of the origin, evolution and large-scale structure of the Universe (Big Bang Theory). Review of the relevant observational evidence. A study of remote galaxies, radio sources, quasars, and intergalactic space. Prerequisite(s): ASTR H206; Natural Science (NA)

ASTRH404 RESEARCH IN ASTROPHYSICS
Desika Narayanan, Bruce Partridge
Intended for those students who choose to complete an independent research project in astrophysics under the supervision of a faculty member. Natural Science (NA)
The Concentration in Biochemistry and Biophysics recognizes enduring trends in interdisciplinary science, by establishing in the curriculum a formal program of classroom and laboratory training at the interface between the physical, chemical and biological sciences.

**LEARNING GOALS**
- Identify, formulate, and solve complex problems at the interface of biology and the physical sciences using state-of-the-art equipment and techniques.
- Apply knowledge of chemistry, biology, physics and mathematics to develop a coherent understanding of biological processes and solve problems in living organisms or in vitro systems derived from biological specimens.
- Learn to search, read and interpret original scientific literature, both for research and for ongoing learning.
- Recognize enduring trends in interdisciplinary science, while navigating the program of classroom and laboratory training at the interface between the physical and biological sciences.
- (For biochemistry) study the importance of biological macromolecules at all levels of the natural sciences, including the cell, the organ, the organism, and larger ecological systems.
- Examine and analyze natural phenomena at the appropriate level(s) (molecular, cellular, organismal and/or ecological), using a variety of methods informed by evolutionary theory.
- Communicate findings (either verbally and/or via written expression) effectively and clearly to diverse audiences.

**CURRICULUM**
All concentrators must complete a major in biology, chemistry or physics while taking additional coursework that spans mathematics and all of these natural science disciplines. The concentration requirements provide guidance for students while allowing considerable leeway for tailoring the program to specific interests. All concentrators take a required core curriculum as well as advanced coursework that is integrated with the major program.

We describe below only the four more popular programs of study within the concentration. Students interested in other options, such as a concentration in both biochemistry and biophysics, should consult with the faculty representatives listed above to design a course of study encompassing the required courses and any proposed substitutions. However, students may not obtain both a chemistry minor and a biochemistry concentration, or both a physics minor and a biophysics concentration.

**CONCENTRATION REQUIREMENTS**

**Biochemistry/Biophysics Core Curriculum (required of all):**
- BIOL 200 (Cell Structure and Function; full-year course).
- One semester of BIOL 300 (Laboratory in Biochemistry and Molecular Biology, cross-listed as CHEM 300) or BIOC 390 (Laboratory in Biochemical Research).
- CHEM 112 (Chemical Dynamics).
- One semester mathematics course numbered 118 (Calculus II) or higher.
- PHYS 105 and 106, or 101 and 102 (two semesters of Introductory Physics), or the Bryn Mawr equivalents.

If students do not take these courses at Haverford or Bryn Mawr, they must have the substitute course(s) approved for college credit by the relevant departments. Beyond this foundation, students must take the following advanced interdisciplinary coursework:

**Biology Major with a Biochemistry Concentration:**
Biology majors seeking a biochemistry concentration must complete the biochemistry/biophysics core curriculum (see above) as well as the following additional requirements:
- CHEM 111 or 113 or 115 (Chemical Structure and Bonding), 112 (Chemical Dynamics), 222 and 225 (Organic Chemistry).
- CHEM 304 (Statistical Thermodynamics and Kinetics) or 305 (Quantum Chemistry).
- CHEM 301 or 302 (Laboratory in Chemical Structure and Reactivity) or BIOC 390.
BIOCHEMISTRY AND BIO PHYSICS

(Laboratory in Biochemical Research).

- Two half-semester advanced courses with significant biochemistry content: CHEM 351 (Bioinorganic Chemistry), 352 (Topics in Biophysical Chemistry), 357 (Topics in Bioorganic Chemistry) and 359 (Topics in Protein Chemistry); majors may take topics courses multiple times with different topics.

- Two half-semester courses with significant biochemistry content: BIOL 301 (Genetics), 302 (Cell Architecture), 303 (Structure and Function of Macromolecules), 304 (Biochemistry: Metabolic Basis of Disease), 306 (Inter- and Intra-Cellular Communication), 308 (Immunology), 310 (Molecular Microbiology, 314 (Photosynthesis), 351 (Molecular Motors and Biological Nano-Machines); 354 (Molecular Virology), 357 (Topics in Protein Science). Students may use courses meeting concentration requirements for the biology major in lieu of one semester of BIOL 300.

Biology Major with a Biophysics Concentration:

Biology majors seeking a biophysics concentration must complete the biochemistry/biophysics core curriculum (see above) as well as the following additional requirements:

- MATH 121 (Calculus III) or 216 (Advanced Calculus).
- PHYS 213 (Waves and Optics), 211 (Laboratory in Electronics, Waves and Optics); half-credit course), and 301 (Advanced Laboratory in Modern Physics).
- PHYS 214 (Quantum Mechanics) or CHEM 305 (Quantum Chemistry).
- PHYS 303 (Statistical Physics) or CHEM 304 (Statistical Thermodynamics and Kinetics).
- A 300-level course in biophysics approved by the concentration coordinating committee.

- Two half-semester courses with significant Biophysics content: BIOL 301 (Advanced Genetic Analysis), 302 (Cell Architecture), 303 (Structure and Function of Macromolecules), 304 (Biochemistry: Metabolic Basis of Disease), and 306 (Inter- and Intra-Cellular Communication), 308 (Immunology), 310 (Molecular Microbiology, 314 (Photosynthesis), 351 (Molecular Motors and Biological Nano-Machines); and 357 (Topics in Protein Science). Students may use courses meeting concentration requirements for the biology major in lieu of one semester of BIOL 300.

Chemistry Major with a Biochemistry Area of Concentration:

Chemistry majors desiring a biochemistry area of concentration must complete the biochemistry/biophysics core curriculum (see above) as well as the following additional requirements:

- Two half-semester courses with significant biochemistry content: CHEM 351 (Bioinorganic Chemistry), 352 (Topics in Biophysical Chemistry), 357 (Topics in Bioorganic Chemistry) and 359 (Topics in Protein Chemistry). Majors may take topics courses multiple times with different topics.

- Two half-semester courses with significant biochemistry content: BIOL 301 (Genetics), 302 (Cell Architecture), 303 (Structure and Function of Macromolecules), 304 (Biochemistry: Metabolic Basis of Disease), 306 (Inter- and Intra-Cellular Communication), 308 (Immunology), 310 (Molecular Microbiology, 314 (Photosynthesis), 351 (Molecular Motors and Biological Nano-Machines); 357 (Topics in Protein Science). Students may use courses meeting concentration requirements for the chemistry major in lieu of either CHEM 301 or 302.

Physics Major with a Biophysics Area of Concentration:

Physics majors desiring a biophysics area of concentration must complete the biochemistry/biophysics core curriculum (see above) as well as two half-semester courses with significant biophysics content:

- BIOL 301 (Genetics), 302 (Cell Architecture), 303 (Structure and Function of Macromolecules), 304 (Biochemistry: Metabolic Basis of Disease), 306 (Inter- and Intra-Cellular Communication), 308 (Immunology), 310 (Molecular Microbiology, 314 (Photosynthesis), 351 (Molecular Motors and Biological Nano-Machines); and 357 (Topics in Protein Science).

Students may use 300-level biology courses meeting concentration requirements for the physics major in lieu of one or two of the six required 300-level physics courses.
BIOCHEMISTRY AND BIOPHYSICS

CONCENTRATION
COORDINATING COMMITTEE
Karin Åkerfeldt
Professor of Chemistry

Suzanne Amador Kane
Associate Professor of Physics

Casey Londergan
Associate Professor of Chemistry

Judith Owen
Elizabeth Ufford Green Professor of Natural Sciences and Professor of Biology

Robert Scarrow
Professor of Chemistry

Walter Smith
Professor of Physics
Modern biology has seen tremendous growth in our ability to understand the structure and function of living organisms at the cellular and molecular levels, and what were traditionally regarded as many different areas of biology have become integrated, particularly in the research laboratory. Our approach to teaching biology therefore emphasizes the common molecular basis of a variety of biological disciplines. We also involve students in the process of discovery in a research-focused curriculum that stresses the experimental method as a teaching tool. Students at all levels of the curriculum frame their own experimental questions and use current research techniques to search for answers. In the junior year students participate in research-focused laboratories (BIOL 300 “Superlab”) and as seniors they conduct their own laboratory-based, year-long research projects. This research may result in presentations at local and national meetings, and occasionally publications in peer-reviewed journals. Our curricular approach allows students to develop the conceptual tools to both follow and contribute to the rapid advance of knowledge and understanding.

Located in the Marian E. Koshland Integrated Natural Sciences Center (KINSC), the Biology Department maintains close interdisciplinary ties with the Chemistry, Physics, Math, Computer Science and Psychology Departments.

**LEARNING GOALS**

Students completing a major in biology at Haverford will be able to:

- work both independently and collaboratively.
- understand fundamental concepts in modern biology.
- integrate knowledge and experimental approaches from multiple scientific disciplines such as chemistry, physics, mathematics, and geology.
- read, understand, and critique the primary scientific literature.
- interpret and analyze scientific data.
- design and conduct hypothesis-driven research.
- troubleshoot experimental approaches.
- integrate new knowledge into a framework that advances understanding.
- communicate scientific ideas and concepts, both orally and in writing.

- understand and practice ethical conduct in scientific inquiry.

**CURRICULUM**

**Perspectives in Biology**

Perspectives in Biology courses without prerequisites are offered at the 100 level for exploration by students interested in learning about biology but not intending to major in the subject. These are appropriate for students from all backgrounds and disciplines and are separate from the major track.

**Major**

Students who wish to major in biology enter the department in their second year, building on a first-year natural science experience. Students take BIOL 200, the year-long sophomore introductory course, followed by four half-semester lecture courses in the junior year that explore fundamental areas in cell and molecular biology. Juniors also engage in a unique, year-long laboratory course (BIOL 300A and BIOL 300B “Superlab”), in which they employ contemporary techniques to answer open-ended biological questions.

The Senior Research Program is the capstone of the Haverford major in biology. The Biology Department provides every major with the opportunity to work directly with our faculty on original research projects. Four to six students work with each professor in his or her area of expertise, be it cell biology, genetics, immunology, microbiology, neurobiology, developmental biology, protein biochemistry or the coevolution of plants and the environment. Senior research can account for as much as half of a student’s senior courses. All seniors present a public talk and poster on their research in their senior year and they write both a research proposal and a final thesis. Students are sometimes co-authors on faculty publications and often travel with them to local and national meetings to present their work. A tradition in the Biology Department, this close research partnership between students and faculty is a distinctive feature of a Haverford education.

**MAJOR REQUIREMENTS**

- Both semesters of BIOL 200A and 200B.

Successful completion of a one-credit natural
science course (which includes a laboratory experience) at Haverford, Bryn Mawr or Swarthmore College is a prerequisite for enrolling in BIOL 200A.

- A minimum of a one-credit chemistry course (with associated lab).
- At least one semester of advanced coursework (200 level or higher) in a natural sciences department other than biology. Courses crosslisted in biology may not be counted toward this requirement.
- Two semesters of the junior laboratory, BIOL 300A and 300B.
- Four half-semester 300-level advanced topics courses (selected from BIOL 301-315 and 331-332). Occasionally, an upper-level course from Bryn Mawr or Swarthmore may substitute for one or two of the half-semester lecture courses, but only with the specific permission of the student’s major adviser. Students are encouraged to take additional topics classes beyond the minimum of four to enhance their biology experience.
- One half-semester 350-level seminar course in the Haverford Biology Department (chosen from BIOL 350-375; no substitutions permitted). Students may take additional seminar courses to enrich their knowledge of the discipline.
- A minimum of two 400-level Senior Research Tutorial credits, generally taken over both semesters of the senior year, including active participation in weekly lab meetings and submission of a notebook and a thesis describing the progress and results of the project. The tutorial may be taken for single or double credit each semester.
- Senior Department Studies, BIOL 499.

In addition to the required courses, the Biology Department strongly recommends a year of physics, a course in probability and statistics, and advanced coursework in another natural science department.

SENIOR PROJECT

The senior thesis is a major component of a year-long research experience that is the capstone of the Biology major at Haverford. The process begins in the junior year, when students and faculty work together to distribute students evenly across all the available Senior Research Tutorials for the following year (each faculty member normally supervises four to six students in all).

During the senior year students enroll in a Senior Research Tutorial (numbered BIOL H402, 403, 404, 407, 408, 409, 410, 411, or 413, depending on the faculty mentor) which is taken for a minimum of one credit in each semester of the senior year. The Senior Research Tutorial involves 10 hours of laboratory work per week per credit, and is completed under the guidance of a faculty mentor. Students may elect to increase their commitment to their research project by enrolling in 1.5 or 2 credits of Senior Research per semester, for up to half their academic credits in the senior year. In addition, all seniors must take Senior Departmental Studies (BIOL H499), which is a pass/fail, half-credit course taken for a full year in parallel with their Senior Research. This senior seminar course provides an opportunity for all majors to be trained in lab safety, hear invited seminar speakers, and to present thesis proposals as well as the results of senior research work.

Thesis Content

Fall Semester:
In the fall, all senior majors complete at least one credit of Senior Research Tutorial during which they begin an original research project that will be continued throughout the year. In the Senior Research Tutorial, students participate in weekly laboratory meetings, keep a laboratory notebook as a record of their work, and interpret and analyze their data. In the fall semester students write a formal project proposal and also present their proposal as a short talk to the department during Senior Departmental Studies.

Spring Semester:
In the spring, all majors complete a second semester of Senior Research Tutorial and participate in Senior Departmental Studies. Students continue the research projects started in the fall under the guidance of their faculty mentor. Senior majors write a final thesis and present a scientific poster describing the results of their research project. They submit their lab notebook as a permanent record of the work they have completed in the lab.

Thesis Preparation (prior to senior year)

Preparation for thesis research begins with the first course for biology majors, BIOL 200, and builds in each course thereafter, so that all of the departmental learning goals are consistently
reinforced. For example, all students in laboratory courses (such as BIOL 200 and BIOL 300) work with a lab partner or in small groups so that they learn to work collaboratively. At the same time, students are also called upon to present their work individually and to maintain their own research lab notebooks, so that they learn to work independently and are responsible for all parts of the project. The students participate in directed journal clubs in BIOL 200 and majors in upper-level courses read and critique research papers from the original scientific literature, presenting their analyses to the class.

The BIOL 30x courses (301, 302, 303, etc.), typically taken during the junior year, are based on current research in biology, with an emphasis on integrating this information into a broader understanding of biological topics. The primary focus in these courses is not simply the information itself but rather on how it was determined experimentally. This emphasis provides the students with the skills needed to understand how research is done.

BIOL 300, the junior-level laboratory course, is intentionally modeled on the work that students are expected to conduct for their senior research thesis, and can be described a classroom-based research experience. The emphasis in this year-long course, which is required for all Biology majors, includes the acquisition of new research techniques but places greater emphasis on hypothesis testing, data analysis, experimental troubleshooting, record keeping, and oral and written presentations. The projects in BIOL 300 are designed to be intellectually open-ended; students share results and insights, and work to understand the current literature and to connect their findings to what is already known.

**Senior Project Learning Goals**

The learning goals for the senior thesis include:

- increasing intellectual independence and initiative,
- developing creativity and rigor in experimental design, execution, and interpretation,
- ensuring reproducibility of experimental results, accurate record keeping, and productivity,
- understanding and participating in collaborative and ethical conduct of research
- learning to present research orally, visually, and in writing.

These are criteria by which we can assess the students’ maturation as scholars.

**Senior Project Assessment**

The department has developed criteria for evaluating the research proposal and thesis, as well as a grading rubric that is distributed to students at the start of their senior year (available on the departmental website). Each faculty member plays a role in the assessment of senior work, which consists of:

- faculty supervision of weekly laboratory work that includes maintenance of laboratory notebook and participation in lab meetings.
- formal project proposal, including written proposal, and oral presentation to the department in the fall.
- poster presentation summarizing research results in the spring semester.
- evaluation of written thesis based on set criteria and grading rubric provided to students at start of senior year.

See the Biology Department website for detailed grading guidelines and standards used in evaluating the senior project (PDF download).

**REQUIREMENTS FOR HONORS**

The department awards honors in biology based on superior work in major courses.

**INTERDISCIPLINARY PROGRAMS**

Many Haverford biology majors participate in academic work that crosses departmental boundaries. The Biology Department contributes to many interdisciplinary programs and has particularly close ties with the following ones:

**Environmental Studies Interdisciplinary Minor**

The Environmental Studies Interdisciplinary Minor aims to cultivate in students the capacity to identify and confront key environmental issues through a blend of multiple disciplines, encompassing historical, cultural, economic, political, scientific and ethical modes of inquiry.
Health Studies Multidisciplinary Minor
The goal of the Health Studies Multidisciplinary Minor is to give greater context to the issues facing health professionals on local, national, and global scales. The structure of this program is intentionally multidisciplinary, bringing scientists together with social science and humanities professors to guide students through the political, cultural and ethical questions that relate to health issues worldwide.

Neuroscience Minor
The Minor in Neuroscience is designed to allow students with any major to pursue interests in behavior and the nervous system across disciplines. Students should consult with any member of the advisory committee in order to declare the minor.

Biochemistry & Biophysics Concentration
The Concentration in Biochemistry and Biophysics recognizes current and undoubtedly enduring trends in interdisciplinary science by establishing in the curriculum a formal program of classroom and laboratory training at the interface between the physical and biological science.

Scientific Computing Concentration
The Concentration in Scientific Computing gives students an opportunity to develop a basic facility with the tools and concepts involved in applying computation to a scientific problem, and to explore the specific computational aspects of their own major disciplines.

STUDY ABROAD
Many biology majors take the opportunity to participate in study abroad programs during their junior year. It is possible for students to devote a semester abroad to studies outside of biology or to include some study of biology (depending on the program). Equivalencies for certain major requirements may be granted by the department to biology majors participating in study away programs during the junior year, depending upon the specific program and coursework undertaken.

AFFILIATED PROGRAMS
4+1 Bioethics Program with the University of Pennsylvania
Study for four years at Haverford, then one year at Penn, and receive a Bachelor of Arts or Bachelor of Science from Haverford and a Master’s in Bioethics (M.BE.) from Penn’s Bioethics Program in the Perelman School of Medicine.
BIOLOGY

Christopher Fanger
Visiting Associate Professor

Aleksandra Snyder
Visiting Assistant Professor

COURSES

BIOLH123 PERSPECTIVES IN BIOLOGY: SCIENTIFIC LITERACY
Karl Johnson
An introduction to current topics through reading and discussion of articles from the primary and popular literatures. Our texts will include Science, Nature and The Science Times. We will follow new breakthroughs and discoveries as they are reported and consider both evolution and revolution in scientific thought in real time from the viewpoint of the larger scientific community. One half semester. Enrollment limited to 30. Prerequisite(s): lottery preference to freshmen and sophomores. Students must register for both Perspectives classes paired in a given semester to qualify for the single lottery that will be run for both classes. Does not count toward the major. Natural Science (NA)

BIOLH127 PERSPECTIVES IN BIOLOGY: HUMAN GENETIC DIVERSITY
Philip Meneely
A major scientific milestone marking the start of the 21st century was the publication of the human genome sequence. With the subsequent reading of many human genomes, comparisons reveal clues to the natural history of the human species. Starting with basic concepts of human genetics and topics such as natural selection, founder effects and genetic drift, the course will examine issues of human origins and migrations, diversity and the relationship between different populations and ethnic groups. One half semester. Enrollment limited to 30. Prerequisite(s): lottery preference to freshmen and sophomores. Students must register for both Perspectives classes paired in a given semester to qualify for the single lottery that will be run for both classes. Does not count towards major. Natural Science (NA)

BIOLH132 PERSPECTIVES IN BIOLOGY: GENETIC ENGINEERING, FARMING, AND FOOD
Staff
An examination of the science behind genetically engineered (GE) foods. The technology will be examined and compared to other plant breeding practices and the potential role of GE crops will be considered in the context of global food security. This course does not satisfy major requirements. Crosslisted: Environmental Studies; Natural Science (NA)

BIOLH200 CELL STRUCTURE AND FUNCTION
Staff
Three hours of lecture and one laboratory period per week. A one-year course in cellular and molecular biology. BIOL 200 considers the cell as a unit of biological activity. There is an introduction to the major macromolecules of the cell which includes a discussion of their synthesis and breakdown and a section on the gene as a unit of biological information and the flow and transmission of genetic information. The laboratory introduces the student to cell and molecular biology, biochemistry and genetics. Enrollment per lab section is limited to 28. Preference for a specific lab section will be given to students preregistering for that lab section; students who do not preregister will be assigned on a space available basis. Prerequisite(s): successful completion, with a grade of 2.0 or higher, of a one credit Natural Science course (which includes a laboratory experience) at Haverford, Bryn Mawr or Swarthmore; Natural Science (NA)

BIOLH217 BEHAVIORAL NEUROSCIENCE
Staff
Interrelations between brain, behavior, and subjective experience. The course introduces students to physiological psychology through consideration of current knowledge about the mechanisms of mind and behavior. Any one of the following or consent: PSYC 100, PSYC 105, BIOL 123, BIOL 124, BIOL 128, BIOL 129, Psychology AP Score 4+; Natural Science (NA)

BIOLH220 UNLOCKING KEY CONCEPTS IN BIOLOGY
Roshan Jain
A course for Bio 200 students designed to teach the principles and methods of biological investigation. Students are taught how biological hypotheses are identified, developed and tested and how biological data are articulated, analyzed and interpreted. The class meets once a week during the semester and draws material from current literature, groundbreaking classical experiments and concurrent topics in BIOL 200. Enrollment by invitation from the department. Course is taken...
Pass/Fail. Prerequisite(s): concurrent enrollment in BIOL 200 and consent; Natural Science (NA)

BIOLH300 LABORATORY IN BIOCHEMISTRY AND MOLECULAR BIOLOGY

*Staff*

An introduction to the application of modern experimental approaches in the study of interesting biological questions. Techniques employed are drawn from: cloning and nucleic acids (DNA and RNA) manipulation, including polymerase chain reaction (PCR) and site-directed mutagenesis; protein expression, purification and characterization, with emphasis on circular dichroism and fluorescence spectroscopy; immunofluorescence, confocal and electron microscopy; and fluorescence-activated cell sorting (FACS) analysis. One lecture and two laboratory periods per week. Preference for a specific lab section will be given to students preregistering for that lab section; students who do not preregister will be assigned on a space available basis. Prerequisite(s): successful completion of BIOL 200a,b with grades of 2.0 or higher, or consent. Crosslisted: CHEM; Natural Science (NA)

BIOLH301 ADVANCED GENETIC ANALYSIS

*Philip Meneely*

The molecular mechanisms governing the transmission, mutation and expression of genes. Particular emphasis is placed on the use of experimental genetic methods to analyze other areas of biology. Prerequisite(s): BIOL 200 or equivalent or consent; Crosslisted: HLTH; Natural Science (NA)

BIOLH302 CELL ARCHITECTURE

*Karl Johnson*

An examination of cellular structure and function. Topics include the cytoskeleton and endomembrane systems, with particular emphasis upon the dynamic qualities of living cells. Prerequisite(s): BIOL 200 or consent of instructor; Natural Science (NA)

BIOLH303 STRUCTURE AND FUNCTION OF MACROMOLECULES

*Kristen Whalen*

A study of the structure and function of proteins, including enzymes, assembly systems and proteins involved in interactions with nucleic acids and membranes. Prerequisite(s): BIOL 200 & CHEM 221 or equivalent to be taken previously or concurrently or consent; Natural Science (NA)

BIOLH305 REGULATION

*Staff*

This class will provide an introduction to the regulation of chromatin dynamics by epigenetic modifications on DNA and histones. We will discuss how the epigenetic code is written and translated into gene expression. Finally, we will investigate how chromatin dynamics play a critical role in human diseases including imprinting disorders, cancer and diabetes. Prerequisite(s): BIOL 200 or consent of instructor; Natural Science (NA)

BIOLH308 IMMUNOLOGY

*Judith Owen, Aleksandra Snyder*

This course will provide an introduction to the rapidly expanding discipline of immunology. Students will learn about the molecular and cellular basis of the immune response through the study of the genetics and biochemistry of antigen receptors, the biochemistry of immune cell activation, the cell physiology of the immune system, immune memory, immune tolerance induction and immune-mediated cell death. Prerequisite(s): BIOL 200 or consent; Crosslisted: HLTH; Natural Science (NA)

BIOLH309 MOLECULAR NEUROBIOLOGY

*Roshan Jain*

This course will focus on molecular approaches to study nervous system development, function and pathology. Topics including the generation of neurons and glia, electrical signaling, learning and memory and Alzheimer’s disease will be discussed using examples from a variety of model systems. Prerequisite(s): BIOL 200 or consent of instructor; Natural Science (NA)

BIOLH310 MOLECULAR MICROBIOLOGY

*Aleksandra Snyder*

A study of prokaryotic biology with emphasis on cell structure, gene organization and expression, which will incorporate selected readings from the primary literature. Topics include the bacterial and viral cell structure, the genetics of bacteria and bacteriophage, gene regulation, horizontal gene transfer and microbial genomics. The course will be taught via lecture, class presentation and discussion, and workshops. Natural Science (NA)
BIOLH312 DEVELOPMENT & EVOLUTION
Rachel Hoang
This course introduces important links between developmental and evolutionary biology. Genetic changes that produce variations between organisms are an important aspect of evolutionary change. Since development can be viewed as the process that links genetic information to the final form of an organism, the fields of development and evolution clearly impact one another. We will look at Drosophila and zebrafish, where developmental mechanisms have been elucidated in remarkable detail. We will then look beyond these model systems to comparative studies that examine development in a range of organisms, considering how these provide insight into evolutionary mechanisms, and how underlying differences in development may account for the differences we see between organisms. Prerequisite(s): BIOL 200 or consent of instructor; Natural Science (NA)

BIOLH314 PHOTOSYNTHESIS
Jonathan Wilson
A study of the function, origins, and history of photosynthesis on Earth, from bacteria to plants. This course will begin with a survey of photosynthetic metabolisms, explore photosynthetic microbial diversity, and investigate the evolution of terrestrial plants through the fossil record. Prerequisite(s): BIOL 200 or consent of instructor; Crosslisted: ENVS; Natural Science (NA)

BIOLH350 NEUROBIOLOGY OF AGING
Staff
This course will examine age-related changes in the CNS with a focus on normal aging. A major theme of the course will be age-related changes in neuroplasticity focusing on both neuronal and non-neuronal contributors. Throughout the course we will distinguish between normal and pathological aging. The course will also emphasize unique issues inherent to the study of human aging and discuss the various vertebrate and invertebrate models utilized by ‘aging’ researchers. The course will consist of student-led presentations of primary research articles related to a specific topic under discussion that week. Prerequisite(s): BIOL 309 or consent; Natural Science (NA)

BIOLH351 MOLECULAR MOTORS AND BIOLOGICAL NANO-MACHINES
Karl Johnson
The world of the cell contains a rich array of molecular machinery that carries out life’s dynamic processes. Interdisciplinary studies of these mechanisms employing a variety of biological, chemical and physical approaches are revealing a wealth of detail spanning from visible phenomenon to the scale of atoms and molecules. Extensive reading of the primary literature will be used as a basis for student-led discussions. Topics will be selected from a list including viral assembly, cellular clocks, mehanoenzyme engines, biosynthetic machinery and the assembly and regulation of cytoskeletal arrays. These systems provide novel insights into how work is accomplished (and regulated) in a nano-scale environment and serve as models for the development of nanotechnologies for science and medicine. Prerequisite(s): Biology 302 or consent of instructor; Natural Science (NA)

BIOLH358 DEVELOPMENTAL GENETICS
Staff
This course will examine the structure of sex chromosomes, and how differences in sex chromosome constitution give rise to the morphological differences between males and females. The emphasis will be on the genetic and molecular basis of sex determination, using the primary research literature. Model organisms will include invertebrates such as Caenorhabditis elegans and Drosophila melanogaster and vertebrates such as placental and non-placental mammals and reptiles. Natural Science (NA)

BIOLH375 ADVANCED TOPICS IN BIOLOGY
Staff
A seminar course exploring the primary literature in a specialized area of cell and molecular biology. Students will read current and historically important original papers as well as pertinent review articles. Oral presentations and written work provide the opportunity for students to demonstrate their ability to critically evaluate current literature in a sub-field of their major discipline. Prerequisite(s): BIOL 300 or equivalent; Natural Science (NA)

BIOLH390 LABORATORY IN BIOCHEMICAL RESEARCH
Louise Charkoudian, Bashkim Kokona
An introduction to the laboratory concepts and techniques at the chemistry-biology interface including: molecular cloning, protein purification,
biophysical spectroscopy, molecular modeling, and biochemical assays. Prerequisite(s): BIO 300A and CHEM 301; Crosslisted: CHEM; Natural Science (NA)

**BIOLH402 SENIOR RESEARCH TUTORIAL IN GENETICS AND MEIOSIS**  
*Philip Meneely*  
(Not offered 2016-17.) The principles and mechanisms by which the chromosome number is reduced and segregated during the production of gametes are studied in the nematode Caenorhabditis elegans. Genetic, molecular, and microscopic methods are used to isolate and examine mutant strains which fail to execute meiosis properly. Laboratory work is supplemented by readings from the current literature on meiosis and C. elegans. Prerequisite(s): consent of instructor; Natural Science (NA)

**BIOLH403 SENIOR RESEARCH TUTORIAL IN PROTEIN FOLDING AND DESIGN**  
*Robert Fairman*  
The laboratory focuses on protein folding and design, with a particular emphasis on the use of proteins in nanoscience. Students will have the opportunity to apply chemical and genetic approaches to the synthesis of proteins for folding and design studies. Such proteins are characterized in the laboratory using biophysical methods (such as circular dichroism spectroscopy, analytical ultracentrifugation, and atomic force microscopy). Functional and structural approaches can also be applied as necessary to answer specific questions relating to protein science. Laboratory work is supplemented with readings in the original literature. Prerequisite(s): consent of the instructor; Natural Science (NA)

**BIOLH404 SENIOR RESEARCH TUTORIAL IN MOLECULAR MICROBIOLOGY**  
*Aleksandra Snyder*  
Studies in bacterial genetics and pathogenesis. Molecular methods will be used to identify and characterize features of diarrhea-causing Escherichia coli that are absent in commensal strains. Laboratory work is supplemented by readings from current literature. Prerequisite(s): consent of the instructor; Natural Science (NA)

**BIOLH407 SENIOR RESEARCH IN BIOARCHITECTURE**  
*Karl Johnson*  
Studies of structure in living systems and applications in nanotechnology. Approaches employed include genetic analysis, biochemistry, biophysics, molecular biology, microscopy and imaging, bioengineering and synthetic biology. Laboratory work is supplemented by readings from the current literature. Prerequisite(s): consent of instructor; Natural Science (NA)

**BIOLH409 SENIOR RESEARCH TUTORIAL IN MOLECULAR NEUROBIOLOGY**  
*Roshan Jain*  
The developing nervous system of vertebrate embryos rapidly becomes patterned into distinct domains of neural cell differentiation. In order to identify what genes are responsible for the establishment of this pattern, a variety of molecular screening techniques are employed. The expression pattern of these genes is then determined by in situ hybridization and their function analyzed in vivo and in vitro, using microinjection and biochemical assays. Laboratory work is supplemented by readings from the current literature. Prerequisite(s): consent of instructor; Natural Science (NA)

**BIOLH410 SENIOR RESEARCH TUTORIAL AT OFF-CAMPUS RESEARCH LABS**  
*Rachel Hoang*  
Research in an area of cell, molecular, or developmental biology is conducted under the supervision of a member of a nearby research laboratory who has volunteered time and space for a Haverford student. All students enrolled in Biology 410 must have a designated on-campus, as well as an off-campus supervisor. Prerequisite(s): consent of instructor; Natural Science (NA)

**BIOLH411 SENIOR RESEARCH TUTORIAL ON THE CONTROL OF CELL SHAPE: MOLECULAR & EVOLUTIONARY APPROACHES**  
*Rachel Hoang*  
All embryos undergo a series of highly elaborate cell movements to produce their final shape and form. Understanding the molecular basis of these movements provides important insight into the underlying molecular mechanisms, and enables us to ask how changes in these mechanisms give rise to differences between organisms. Students therefore approach this subject from both molecular and evolutionary perspectives. Using the fruit fly as a model system, we are looking inside cells to ask how intricate changes to the
cytoarchitecture of individual cells drive movements of entire layers of cells. We hope to further understand how these same developmental processes go awry in situations of human disease (e.g. cancer metastasis). We are also examining cell movements in a variety of insects to ask how the developmental mechanisms themselves evolve and change. Projects draw on a variety of techniques including cell and molecular biology, embryology, genetics, genomics and cell imaging. Laboratory work is supplemented by readings from the current literature. Prerequisite(s): consent of instructor; Natural Science (NA)

**BIOLH413 SENIOR RESEARCH TUTORIAL IN PLANT BIOLOGY AND EVOLUTION**

*Jonathan Wilson*

Plants are an important interface between biology and the environment, and the study of plants’ evolutionary history illuminates this interaction. This course will focus on the physiology and evolution of living and extinct plants. Techniques employed include anatomical studies of living and fossil plant tissues; imaging and quantitative investigation of plant structure; and the collection and analysis of fossil plant material. Laboratory work is supplemented by readings from the literature. Prerequisite(s): consent of instructor; Natural Science (NA)

**BIOLH499 SENIOR DEPARTMENT STUDIES**

*Rachel Hoang*

Attendance at seminars by visiting speakers; senior seminar meetings, consisting of presentation and discussion of research plans and research results by students and faculty; and students’ presentations of papers on contemporary developments in experimental biology. Prerequisite(s): consent of department; Natural Science (NA)
The program in chemistry is designed to meet the needs of students who are pursuing chemistry either for a variety of pre-professional reasons or to increase their knowledge of the natural sciences. Therefore, Haverford has a chemistry major program that provides preparation for careers in science, medicine, law, business, K-12 education, as well as a number of other professions.

The major program recognizes that chemistry as a discipline is a core science but is also intertwined with a number of other fields, including physics, biology and math/computer science. In fact, some of the most exciting areas in science today are found in the interdisciplinary fields of chemical physics, chemical biology, theoretical/computational chemistry, environmental studies and materials science. The chemistry major allows the student flexibility in designing a program that can be directed toward such interdisciplinary areas or to one of the more traditional areas of organic, physical, or inorganic chemistry. In addition, the Chemistry Department is one of the sponsor departments of the concentrations in Scientific Computing and Biochemistry and Biophysics and contributes courses to the minor in Environmental Studies.

LEARNING GOALS
Our major goal is to provide our students with the most rigorous education in the core concepts of chemistry.

• Students will understand and apply basic research methods as used professionally in chemistry, including research design, data analysis, and interpretation.
• Students will understand the fundamental basis for the structures and reactivities of atoms, molecules and non-molecular solids and the analytical techniques used for their determination.

CURRICULUM
Introductory Courses
Students interested in majoring or minoring in chemistry, or those who wish to take chemistry in support of another science major or a preparation for careers in medicine or other health-related fields, have three possible entry points into our course sequences. The particular entry point or placement depends on the level of preparation of the individual student and is determined by the combination of results from a placement questionnaire and individual consultation. Students with no to limited previous chemistry experience enter the first year chemistry sequence with an intensive version of CHEM 113 (Structure and Bonding), followed by CHEM 114 (Chemical Dynamics). Students with typical high school chemistry preparation enroll in non-intensive sections of these same two courses. The third entry point is for students with an excellent high school chemistry background, who take CHEM 115, which includes the CHEM 111 lecture and a more investigative, independent lab program, and CHEM 112. All students can continue the following year with CHEM 222, a course in organic biological chemistry and CHEM 225, which is focused on organic synthesis. Pre-medical students should continue through at least CHEM 222, and may need to take additional organic or biochemistry courses depending on the requirements of medical schools.

The Chemistry Department typically also offers each year at least one course at the 150 level that is without prerequisites and does not count toward the major. These courses are designed to give students majoring in all fields an appreciation for and understanding of important chemical concepts and theories and their applications to our contemporary world.

Research
Research is the characteristic activity of chemists, and the Chemistry Department believes that students should be involved in research as part of their chemical education. As juniors (typically) our majors take intensive integrated laboratory courses (“Superlabs”; CHEM 301, 302 and Biochemistry 390) designed to teach the laboratory, computer, experimental design and communication skills needed for independent research. All senior chemistry majors are required to write a senior thesis based on mentored research for which they get course credit. Students at any level of the curriculum can obtain laboratory research experience through paid summer internships or by enrolling in research tutorial (CHEM 26x and 36x) courses during the academic year, and most majors do both. Typically two to six students work in each faculty member’s laboratory during any given semester or summer. Chemistry majors who wish
CHEMISTRY

to work elsewhere for the summer have been successful at securing summer research positions in university, government, and industrial chemical laboratories. The senior research thesis also comprises communicating research work in different formats, including an oral presentation in our weekly, year long departmental seminar series, which also includes invited speakers, and a poster presentation at the end of the academic year.

This research experience nurtures talents and abilities, encourages independent problem solving and builds on concepts and principles discussed in prior formal class work. It also can help the student define choices for careers after graduation. Research allows students to discover and develop creativity and independence, which the well-structured programs of the formal courses do not always adequately address. Student and faculty research in the department is supported by grants from the National Science Foundation, the National Institutes of Health, and several other sources. Students are also encouraged to present their research work at regional and national conferences. Students and faculty from the Chemistry Department publish their research findings in top tier peer-reviewed journals; publications are listed at the Chemistry Department web site.

Also see the Chemistry Department website for a detailed writing guide for students enrolled in chemistry courses (PDF download).

MAJOR REQUIREMENTS
The core required courses are:
• four semesters of introductory and organic chemistry: CHEM 111, 113 OR 115, CHEM 112 OR 114, CHEM 222, and CHEM 225.
• two semesters of advanced integrative chemistry laboratory (“Superlab”): CHEM 301 and 302.
• one semester of physical chemistry: CHEM 304 or 305.
• one semester of senior research tutorials: CHEM 36x or 380.
• two half-semester courses in inorganic chemistry: CHEM 320 and one of 351, 353, or 354.
• Senior Seminar: CHEM 391 (a half credit course over two semesters).

Chemistry majors must also complete:
• one semester of additional advanced chemistry courses numbered 304-358.
• one semester of math (MATH 118 or above).
• two semesters of either introductory physics (PHYS 101/102 or 105/106) or biology (BIOL 200).

ACS-Certified Chemistry Major
An American Chemical Society (ACS) certified major requires additional coursework and is recommended for students interested in pursuing graduate study in science and engineering, or who wish to directly enter the job market in a chemistry-related field after graduation.

In order to receive ACS-certification, students must satisfy all of the major requirements in a way that includes a year of physics and a semester of biochemistry (this is automatic for biochemistry concentrators), and also must take one additional physical chemistry course. Specifically, ACS-certified majors must complete:
• both semesters of physical chemistry (CHEM 304 and 305); for ACS-certified majors these courses do not fulfill the additional advanced course requirement.
• two semesters of introductory physics (101/102 or 105/106).
• one semester of biochemistry, which can be BIOL 200 (second semester), two half-semester courses from CHEM 351, 352, 357 and 359, or equivalent, such as Bryn Mawr Chemistry 242 or higher.

MINOR REQUIREMENTS
• Four semesters of introductory and organic chemistry: CHEM 111, 113 OR 115, CHEM 112 OR 114, CHEM 222, and CHEM 225.
• One semester of physical chemistry: CHEM 304 or 305.
• One semester of advanced chemistry chosen from courses numbered between 301 and 369.

Students must take at least three of the courses for the chemistry minor at Haverford College. The Senior Seminar (CHEM 391) is not required, but recommended.

SENIOR PROJECT
The senior project in chemistry has two major components. First, all seniors enroll in CHEM 391 Senior Seminar, a year-long seminar course. Second, all seniors enroll in at least one credit of research, either experimental, computational or
literature-based. The course numbers for research as specific to the faculty advisors, often with a CHEM 36x designation. CHEM 36x work involves the design, articulation, and conduction of an independent research project. Students are expected to be in the laboratory for at least 15 hours per week performing experiments, analyzing data, and designing future experiments. Additional activities include participation in research group meetings, where data, experiments, and literature articles are discussed. Each student prepares a formal document at the end of their spring semester detailing their work in the Senior Project. This document is generally due on the last day of classes in the spring semester.

CHEM 391 is designed to expose students to chemistry through talks by chemists from other institutions and to provide our students with opportunities to present their own work formally. Each student prepares and delivers both an oral and poster presentation. The oral presentations occur between December and March, while the poster presentations occur in April. The audience for these presentations is all chemistry seniors, underclass students involved in research, post-doctoral fellows, and the faculty in chemistry.

Senior Project Learning Goals
Identify and describe research methods used to probe specific chemical motifs.
• This learning objective involves the correct use of various instrumental analyses in the full characterization of different reaction types. This learning objective most likely fits into the junior level CHEM 301/302 Lab in Chemical Structure and Reactivity (Superlab).

Design and articulate an independent research project.
• This learning objective is designed to probe a student’s ability to digest the chemical literature, formulate new ideas, and articulate them clearly. This objective will take the form of an independent research proposal based on the primary literature and includes new ideas and directions. This would serve a few purposes. First, it would provide preparation for senior thesis experience in that they need to be able to propose future experiments in current projects. Second, it would provide another source for the evaluation of their critical thinking skills.

Critique conclusions presented in the primary literature.
• This learning objective is designed to measure a student’s ability to analyze and critique the primary literature. This is performed routinely in the advanced level courses offered by the Chemistry Department.

Senior Project Assessment
The Chemistry Department’s assessment of a student’s capstone experience involves three major components: research efforts, oral presentation skills, and the written thesis. We seek to help students develop and demonstrate the following behaviors and skills.

Chemistry Research Grades
Senior research grades encompass several different components, including your research efforts, the quality of your thesis and your participation in senior seminar. This document is designed to convey our expectations of you in your research experience and to help you interpret your grades.

Research
A 4.0 student will:
• demonstrate independent intellectual involvement in his or her project.
• show evidence of productivity that is commensurate with the amount of credit assigned to 36x.
• make creative contributions to the design and analysis of experiments.
• propose independent ideas to overcome research obstacles.
• proactively use the primary literature as an integral resource.
• interpret his or her own data and develop ideas for subsequent studies.
• maintain a clear and complete laboratory notebook.
• display critical thinking in lab meetings.
• work to maximize research progress during the year.

Thesis
A 4.0 student will:
• clearly describe the context of the project in the greater literature.
• briefly summarize the history or related studies.
• explain the novelty of the work described in the thesis.
CHEMISTRY

- detail experimental methodologies to the level of detail with which one could reproduce all experiments.
- identify the strengths and limitations of each technique used.
- summarize and interpret all results.
- analyze the outcome of his or her experiments in the context of the greater literature, with particular emphasis on continued progress of the research project.
- clearly display experimental data through the use of tables and figures, when appropriate.
- fully and consistently cite literature precedence.

Seminar
A 4.0 student will:
- clearly construct and deliver an oral and poster presentation in which the relevance, novelty and preliminary results are communicated clearly within the given constraints.
- demonstrate the progress of his or her project between the oral and poster presentations.
- answer post presentation questions completely.
- be an active participant in other presentations (by both students and outside speakers) by asking questions.

Grades for each student are assigned by the student’s research supervisor using the criteria described above. Student theses, presentations and experimental efforts are discussed at a meeting of the chemistry faculty at the end of each academic year.

An additional level of assessment is used for each student. The department scores each student in the following categories; oral presentations, intellectual contributions, command of the literature, experimental skills, and written work. These “scores” for each student are either “fails to meet expectations”, “meets expectations”, or “exceeds expectations”. These data are tracked from year to year to allow the department to observe and emerging trends and challenges and to adapt our program to foster success in our students.

REQUIREMENTS FOR HONORS
All students who participate in Senior Research (CHEM 36x) for two semesters (or for one semester with an appropriate summer research experience) will be considered for departmental honors. Successful honors candidates will be expected to do superior work in major courses and to complete a research project at a level superior both in quality and quantity of effort to that expected in normal course work.

CONCENTRATIONS AND INTERDISCIPLINARY MINORS
Students who major in chemistry may choose to minor or concentrate in any of several related disciplines. For more information about these programs and their requirements, please see each program’s website or catalog entry.

Environmental Studies Minor
The Environmental Studies Interdisciplinary Minor aims to cultivate in students the capacity to identify and confront key environmental issues through a blend of multiple disciplines, encompassing historical, cultural, economic, political, scientific and ethical modes of inquiry.

In the Chemistry Department, courses that contribute to this minor are CHEM 112, 150 and 358.

Neuroscience Minor
The minor in Neuroscience is designed to allow students with any major to pursue interests in behavior and the nervous system across disciplines. Students should consult with any member of the advisory committee in order to declare the minor.

Biochemistry Concentration
Haverford’s Concentration in Biochemistry and Biophysics is located at the interface between the biological, chemical, and physical sciences. For our ambitious students and faculty who seek to understand biological processes from physical and chemical points of view, this is an especially exciting place to be. We offer a range of courses of study depending on the student’s particular area of interest.

Scientific Computing Concentration
The Concentration in Scientific Computing gives students an opportunity to develop a basic facility with the tools and concepts involved in applying computation to a scientific problem, and to explore the specific computational aspects of their own major disciplines.

In the Chemistry Department, courses that contribute to this concentration are CHEM 304, 305, and 362; students are also encouraged to
enroll in CHEM 322 when offered at Bryn Mawr College.

AFFILIATED PROGRAMS

4+1 Engineering Program with the University of Pennsylvania
Haverford College and the University of Pennsylvania have formed a partnership that enables qualified Haverford undergraduates to gain early and expedited admission into a Master's degree offered by Penn Engineering.

Study for four years at Haverford, then one year at Penn, and receive a Bachelor of Science degree from Haverford and a Master's in Engineering from Penn. Haverford is the first liberal arts college in the world to enter into such an agreement with an Ivy League engineering program.

STUDY ABROAD
Chemistry majors wishing to study abroad during the junior year should confer with the faculty adviser and typically take at least one chemistry or biochemistry course per semester at the foreign institution. The Chemistry Department has currently approved international study abroad programs at Oxford University (England), University College London (England), University of Melbourne (Australia), University of Lund (Sweden) and University of Aberdeen (Scotland). Chemistry majors have also recently studied at University of Stockholm (Sweden), Queen's University (Northern Ireland), National University of Ireland (Ireland), University of the West Indies (Barbados) and University of Cape Town (South Africa).

AFTER GRADUATION
About one third of Haverford's chemistry majors enter top-ranked graduate programs leading to a Ph.D., and another third enter medical school after graduation. The remaining third of Haverford's chemistry majors obtain challenging and rewarding positions as teachers, laboratory scientists, and information specialists, among other professions.

FACULTY

Mentors of Student Research:
Karin S. Åkerfeldt, Professor
Bioorganic Chemistry: delineating structure function relationships in proteins; protein design.

Frances Blase, Associate Professor
Synthetic Organic Chemistry: synthesis of medically relevant natural products.

Louise Charkoudian, Assistant Professor
Bioorganic Chemistry: Elucidation of bacterial biosynthetic mechanisms; developing environmentally responsible chemical tools for organic syntheses.

Casey Londergan, Associate Professor
Biophysical Chemistry: observing protein dynamics by vibrational spectroscopy.

Alexander J. Norquist, Associate Professor and Department Chair
Materials Chemistry: crystal growth of organically templated transition metal oxides.

Robert C. Scarrow, Professor
Bioinorganic Chemistry: Synthetic chemical models of the role of metal ions in the oxygenation and hydrolytic reactions catalyzed by metalloenzymes.

Joshua Schrier, Assistant Professor
Theoretical Chemistry: electronic, optical, and mechanical properties of nanostructures.

Helen K. White, Assistant Professor
Environmental Chemistry: investigating sources, sinks and cycling of organic compounds in the environment.

Other Faculty Members:
Colin MacKay
John Farnum Professor of Chemistry, Emeritus

Terry Newirth
Professor Emeritus

Claude E. Wintner
Professor Emeritus

Kelly Matz
First-Year Chemistry Laboratory Instructor

Michael J. Kukla
Organic Reactions and Synthesis Laboratory Instructor

Mark Stein
Organic Biological Chemistry Laboratory Instructor
CHEMISTRY

Visiting Faculty:
Robert Broadrup
Visiting Assistant Professor

Mark Hilfiker
Visiting Assistant Professor

Philip Adler
Visiting Assistant Professor

Art Palmer
Visiting Professor

Stephen Podowitz-Thomas
Visiting Assistant Professor

David Laviska
Visiting Assistant Professor

COURSES
CHEMH111 CHEMICAL STRUCTURE AND BONDING
Louise Charkoudian, Robert Scarrow
Structure and bonding in molecules starting from nuclear and electronic structure of atoms. This course introduces the theories of chemical bonding that rationalize and predict the structures and bulk properties of molecules and materials. It also introduces modern instrumental and computational methods used to study chemical structure and bonding. This is a more intensive offering of CHEM 111 designed for students with little or no experience in chemistry. Natural Science (NA)

CHEMH112 CHEMICAL DYNAMICS
Staff
An introduction to chemical thermodynamics, equilibrium, electrochemistry and kinetics. Microscopic properties are used to develop basic chemical concepts of energy, enthalpy, entropy, and the Gibbs Energy, and their applications to thermochemistry, equilibria, and electrochemistry. Chemical kinetics, reaction mechanisms, and applications to chemical problems are also discussed. Prerequisite(s): placement by the Chemistry Department. This is a more intensive offering of CHEM 112 designed for students with little or no experience in chemistry. Natural Science (NA)

CHEMH113 INTENSIVE: CHEMICAL STRUCTURE AND BONDING
Alexander Norquist
Structure and bonding in molecules starting from nuclear and electronic structure of atoms. This course introduces the theories of chemical bonding that rationalize and predict the structures and bulk properties of molecules and materials. It also introduces modern instrumental and computational methods used to study chemical structure and bonding. This is a more intensive offering of CHEM 111 designed for students with little or no experience in chemistry. Natural Science (NA)

CHEMH114 INTENSIVE: CHEMICAL DYNAMICS
Staff
An introduction to chemical thermodynamics, equilibrium, electrochemistry and kinetics. Microscopic properties are used to develop basic chemical concepts of energy, enthalpy, entropy, and the Gibbs Energy, and their applications to thermochemistry, equilibria, and electrochemistry. Chemical kinetics, reaction mechanisms, and applications to chemical problems are also discussed. Prerequisite(s): placement by the Chemistry Department. This is a more intensive offering of CHEM 112 designed for students with little or no experience in chemistry. Natural Science (NA)

CHEMH115 CHEMICAL STRUCTURE AND BONDING WITH INQUIRY LAB
Robert Scarrow
Three lectures, one lab period, and one laboratory planning meeting each week. In the lab, students will become acquainted with modern methods of chemical structure analysis as they discover the identity of unknown compounds via self-proposed experiments. Natural Science (NA)

CHEMH151 CASE STUDIES IN CHEMISTRY: INTRODUCTION TO DRUG ACTION AND DESIGN
Staff
Drugs impact our everyday lives and, as more information is put out there, it becomes more difficult to process all of it. This course will provide the background to understand basic aspects of how drugs work, how they are designed, and a brief survey of common therapies. The first part will include a short introduction to general and organic chemistry. After that, we will discuss how drugs work, how they are designed and tested, and how they are brought to market. The final portion of the class will then include a survey of the treatment of a wide variety of conditions, including cancer, cardiovascular disease, viruses, bacteria, and neurological diseases. These concepts will be covered in a variety of different ways, including
activities, article discussions, and lectures. Natural Science (NA)

CHEMH222 ORGANIC BIOLOGICAL CHEMISTRY
Karin Åkerfeldt
Survey of organic chemistry reactions in an aqueous environment, highlighting transformations important for understanding the properties and reactivity of biomolecules in the cell, with emphasis on functional groups, acids and bases, chirality, energetics, reaction mechanisms, enzyme inhibitors and drug design. One lab per week required. One recitation per week required. Natural Science (NA)

CHEMH225 ORGANIC REACTIONS AND SYNTHESIS
Robert Broadrup
This course will explore organic reactions in mechanistic detail, and highlight their use in the syntheses of complex organic molecules. It will concentrate on functional group transformations and then delve into organometallic and enantioselective reactions for use in complex syntheses. Prerequisite(s): CHEM 111 or 115, & CHEM 112 & 222 or consent. Natural Science (NA)

CHEMH261 RESEARCH TUTORIAL IN PHYSICAL CHEMISTRY
Casey Londergan
One-half credit course for the year designed for students interested in the chemistry research experience in physical chemistry, condensed phase chemical physics, and biophysical chemistry, with emphasis on spectroscopic studies of peptides and proteins. (Not open to seniors.) Prerequisite(s): consent from instructor; Natural Science (NA)

CHEMH262 RESEARCH TUTORIAL IN THEORETICAL CHEMISTRY
Joshua Schrier
One-half credit course for the year designed for students interested in the chemistry research experience in theoretical physical chemistry, with emphasis on methods for prediction of optical, electronic, and mechanical properties of semiconductor nanostructures. Not open to seniors. Prerequisite(s): consent; Natural Science (NA)

CHEMH263 RESEARCH TUTORIAL IN ORGANIC CHEMISTRY
Frances Blase
One-half credit course for the year designed for students interested in the chemistry research experience in synthetic organic chemistry and physical-organic chemistry. Topics include total synthesis of biologically significant molecules, new methods of enantioselective synthesis, and the study of organic reaction mechanisms. Not open to seniors. Prerequisite(s): consent; Natural Science (NA)

CHEMH264 RESEARCH TUTORIAL IN BIOORGANIC CHEMISTRY
Karin Åkerfeldt
One-half credit course for the year designed for students interested in the chemistry research experience in protein structure-function relationship studies and the design and synthesis of a broad range of peptides, proteins and biologically inspired novel materials. Not open to seniors. Prerequisite(s): consent; Natural Science (NA)

CHEMH265 RESEARCH TUTORIAL IN BIOINORGANIC CHEMISTRY
Robert Scarrow
One-half credit course for the year designed for students interested in the chemistry research experience in spectroscopic and kinetic studies of metalloproteins and inorganic coordination compounds. (Not open to seniors.) Prerequisite(s): consent; Natural Science (NA)

CHEMH267 RESEARCH TUTORIAL IN BIOLOGICAL CHEMISTRY
Louise Charkoudian
One-half credit course for the year designed for students interested in the chemistry research experience in natural product biosynthesis. (Not open to seniors.) Prerequisite(s): consent; Natural Science (NA)

CHEMH268 RESEARCH TUTORIAL IN ENVIRONMENTAL CHEMISTRY
Helen White
One-half credit course for the year designed for students interested in the chemistry research experience in the field of biogeochemistry, a multidisciplinary approach focused at understanding the chemical composition and processes of Earth's biosphere. Not open to seniors. Prerequisite(s): consent; Natural Science (NA)

CHEMH269 RESEARCH TUTORIAL IN MATERIALS SCIENCE
Alexander Norquist
One-half credit course for the year designed for students interested in the chemistry research
experience in the field of biogeochemistry, a multidisciplinary approach focused at understanding the chemical composition and processes of Earth's biosphere. Not open to seniors. Prerequisite(s): consent; Natural Science (NA)

CHEM300 LABORATORY IN BIOCHEMISTRY AND MOLECULAR BIOLOGY
Karl Johnson
An introduction to the application of modern experimental approaches in the study in interesting biological questions. Techniques employed are drawn from: cloning and nucleic acids (DNA and RNA) manipulation, including polymerase chain reaction (PCR) and site-directed mutagenesis; protein expression, purification and characterization, with emphasis on circular dichroism and fluorescence spectroscopy; immunofluorescence, confocal and electron microscopy; and fluorescence-activated cell sorting (FACS) analysis. One lecture and two laboratory periods per week. Preference for a specific lab section will be given to students preregistering for that lab section; students who do not preregister will be assigned on a space available basis. Prerequisite(s): successful completion of Biology 200 with grades of 2.0 or higher, or consent; Crosslisted: Biology; Natural Science (NA)

CHEM301 LAB IN CHEMICAL STRUCTURE AND REACTIVITY
Robert Broadrup
Two lectures and two laboratory periods. An introduction to the methods of research in chemistry. Inorganic, organic, physical chemistry, computational chemistry, and biochemical concepts are integrated in a broad laboratory study of structure and its relationship to chemical reactivity. Physical methods are used in studies of organic, inorganic, and biochemical reactions. Chemical synthesis and the modern methods of instrumental analytical chemistry are particularly stressed. Instruments such as lasers, the 500 MHz NMR spectrometer, and the mass spectrometer combined with either gas or liquid chromatography are used by students, with faculty supervision. Prerequisite(s): CHEM 225 and 304; Natural Science (NA)

CHEM304 STATISTICAL THERMODYNAMICS AND KINETICS
Casey Londergan, Joshua Schrier
Three lectures. A quantitative approach to the description and prediction of behavior in chemical systems. Topics to be covered include: introductory quantum mechanics and energy in molecules, statistical mechanics and energy partitioning, thermodynamics of molecules and larger systems, physical and chemical equilibrium, and chemical kinetics. Systems of interest range from single molecules to complicated condensed-phase macromolecular assemblies; specific experimental examples of single-molecule observation, phase changes in lipids and liquid crystals, and observations of protein folding will be discussed in the context of the course material. Natural Science (NA), Quantitative (QU)

CHEM305 QUANTUM CHEMISTRY
Casey Londergan
Two lectures. The quantum theory of atoms and molecules as applied to problems in molecular structure, computational chemistry, and basic spectroscopic techniques. Emphasis on computer-based solutions and visualization. Prerequisite(s): MATH 121 or 216; Natural Science (NA), Quantitative (QU)

CHEM320 CONCEPTS OF INORGANIC CHEMISTRY
Alexander Norquist
Three lectures for one-half semester (one-half course credit). An introduction to structure and reactivity of inorganic molecules and materials. Topics include: theories of chemical bonding, symmetries of molecules and solid state materials, acid-base, oxidation-reduction reactions, and structures and nomenclature of coordination complexes. Prerequisite(s): CHEM 225 or consent; Natural Science (NA)

CHEM351 BIOINORGANIC CHEMISTRY
Robert Scarrow
CHEMISTRY

Three lectures for one-half semester (one-half course credit). Biological cells require metals such as zinc, iron, copper, manganese, and molybdenum; metal-binding abilities of various functional groups within proteins and nucleic acids, metal-based reactivity involved in reaction mechanisms of specific metalloenzymes, and medically-relevant topics such as bioaccumulation and storage of metal ions, the toxicity of heavy metals, and use of metal-containing drugs in treating disease will be discussed. Prerequisite(s): CHEM 320 or consent; Natural Science (NA)

CHEMH352 TOPICS IN BIOPHYSICAL CHEMISTRY
Staff
The specific content of the course varies, depending on faculty and student interests. The course will focus on biophysical chemistry and related topics. Natural Science (NA)

CHEMH353 TOPICS IN MATERIALS SCIENCE
Alexander Norquist
Three lectures for one-half semester (one-half course credit) This course will focus on the structure-property relationship central to the study of materials with specific functions. Structural studies will include bonding, order/disorder, and non-stoichiometry in crystalline and non-crystalline solids. Optical, magnetic and electronic properties will be discussed in the context of non-linear optical materials, ferroelectric and magnetoresistant materials, as well as superconductors and semiconductors. Natural Science (NA)

CHEMH354 SOLID STATE CHEMISTRY
Staff
Three lectures for one-half semester (one-half course credit). An examination of the reactivity of solids. Synthetic techniques and structural analyses will be emphasized. Natural Science (NA)

CHEMH355 TOPICS IN ADVANCED ORGANIC CHEMISTRY: GREEN CHEMISTRY
Staff
Natural Science (NA)

CHEMH357 TOPICS IN BIOORGANIC CHEMISTRY
Staff
The specific content of the course varies, depending on faculty and student interests. The course will focus on organic chemistry as applied to biological systems and related topics. Natural Science (NA)

CHEMH358 TOPICS IN ENVIRONMENTAL CHEMISTRY
Helen White
Three lectures for one-half semester (one-half course credit). This course will examine chemical processes that occur in natural waters, soils and the atmosphere. Specific topics will be chosen with input from enrolled students, who will be expected to share in discussion leadership. CHEM 358 may be repeated once for credit as long as the topical themes differ. Prerequisite(s): CHEM 304 or equivalent or permission; Crosslisted: ENVS; Natural Science (NA)

CHEMH361 RESEARCH TUTORIAL IN PHYSICAL CHEMISTRY
Casey Londergan
Directed research in physical chemistry, condensed phase chemical physics, and biophysical chemistry, with emphasis on spectroscopic studies of site-specific environmental and conformational dynamics in peptides and proteins. Prerequisite(s): consent; Natural Science (NA)

CHEMH362 RESEARCH TUTORIAL IN THEORETICAL CHEMISTRY
Joshua Schrier
Directed research in computational and theoretical physical chemistry, with emphasis on development and application of methods for prediction of optical, electronic, and mechanical properties of organic and inorganic semiconductor nanostructures. Prerequisite(s): consent; Natural Science (NA)

CHEMH363 RESEARCH TUTORIAL IN ORGANIC CHEMISTRY
Frances Blase
Directed research in synthetic organic chemistry, and physical-organic chemistry. Topics include total synthesis of biologically significant molecules, new methods of enantioselective synthesis and the study of organic reaction mechanisms. Prerequisite(s): consent; Natural Science (NA)

CHEMH364 RESEARCH TUTORIAL IN BIOORGANIC CHEMISTRY
Karin Åkerfeldt
CHEMISTRY

Directed research in bioorganic chemistry. Topics include protein structure-function relationship studies and the design and synthesis of a broad range of peptides, proteins and biologically inspired novel materials. Prerequisite(s): consent; Natural Science (NA)

CHEMH365 RESEARCH TUTORIAL IN BIOINORGANIC CHEMISTRY
Robert Scarrow
Topics include spectroscopic and kinetic studies of metalloproteins and inorganic coordination compounds. Prerequisite(s): consent; Natural Science (NA)

CHEMH367 RESEARCH TUTORIAL IN BIOLOGICAL CHEMISTRY
Louise Charkoudian
Directed research in organic biological chemistry. Topics include natural product isolation and characterization, investigations into the role of protein-protein interactions in antibiotic biosynthesis, and the elucidation of biosynthetic pathways. Prerequisite(s): consent; Natural Science (NA)

CHEMH368 RESEARCH TUTORIAL IN ENVIRONMENTAL CHEMISTRY
Helen White
Directed research in environmental chemistry, centered in the field of biogeochemistry, a multidisciplinary approach focused at understanding the chemical composition and processes of Earth's biosphere. Prerequisite(s): consent; Natural Science (NA)

CHEMH369 RESEARCH TUTORIAL: MATERIALS SCIENCE
Alexander Norquist
Topics include synthesis and structural characterization of organically templated microporous materials. Prerequisite(s): consent; Natural Science (NA)

CHEMH390 LABORATORY IN BIOCHEMICAL RESEARCH
Louise Charkoudian
An introduction to the laboratory concepts and techniques at the chemistry-biology interface including: molecular cloning, protein purification, biophysical spectroscopy, molecular modeling, and biochemical assays. Prerequisite(s): BIOL 300 and CHEM 301; Crosslisted: Biology; Natural Science (NA)

CHEMH391 DEPARTMENTAL SEMINAR
Alexander Norquist
Presentation and discussion of current research topics in the various areas of chemistry by faculty, students and outside speakers. One meeting per week throughout the year (one-half course credit). Natural Science (NA)
Students may complete a major or minor in Classical and Near Eastern Archaeology.

**CURRICULUM**
The curriculum of the department focuses on the cultures of the Mediterranean regions and the Near East in antiquity. Courses treat aspects of society and material culture of these civilizations as well as issues of theory, method, and interpretation.

**MAJOR REQUIREMENTS**
The major requires a minimum of 10 courses. Core requirements are two 100-level courses distributed between the ancient Near East and Egypt (either ARCH 101 or 104) and ancient Greece and Rome (ARCH 102), and two semesters of the senior conference. At least two upper-level courses should be distributed between Classical and Near Eastern subjects. Additional requirements are determined in consultation with the major adviser. Additional coursework in allied subjects may be presented for major credit but must be approved in writing by the major adviser; such courses are offered in the Departments of Anthropology, Geology, Greek, Latin and Classical Studies, Growth and Structure of Cities, and History of Art. In consultation with the major adviser, one course taken in study abroad may be accepted for credit in the major.

The writing requirement for the major consists of two one-semester Writing Attentive courses offered within the department.

Each student’s course of study to meet major requirements will be determined in consultation with the undergraduate major adviser in the spring semester of the sophomore year, at which time a written plan will be designed. Students considering majoring in the department are encouraged to take the introductory courses (ARCH 101 or 104 and 102) early in their undergraduate career and should also seek advice from departmental faculty. Students who are interested in interdisciplinary concentrations or in study abroad during the junior year are strongly advised to seek assistance in planning their major early in their sophomore year.

**MINOR REQUIREMENTS**
The minor requires six courses. Core requirements are two 100-level courses distributed between the ancient Near East and Egypt and ancient Greece and Rome, in addition to four other courses selected in consultation with the major adviser.

**ANNUAL FIELD TRIP**
From 2015/6 onwards the department will be organizing an annual field trip for registered majors in their junior year. The trip will involve a city (e.g., Athens or Rome) which features in our teaching program, or a city which contains relevant Museums (e.g., London, Paris, Berlin). Details for the upcoming trip will be made available at the beginning of the fall semester. The airfare and accommodations costs are covered by the department.

**CONCENTRATION IN GEOARCHEOLOGY**
The Departments of Anthropology, Classical and Near Eastern Archaeology, and Geology offer a concentration in Geoarchaeology for existing majors in these departments. Please consult with Professor Magee regarding this program. Please note that these requirements are separate from those for the major and cannot be double counted.

Requirements for the concentration:
- Two 100-level units from Anthropology, Classical and Near Eastern Archaeology (including ARCH 135, a half-credit course) or Geology, of which one must be from the department outside the student’s major.
- ANTH/ARCH/GEOL 270: Geoarchaeology (Magee, Barber).
- BIOL/ARCH/GEOL 328: Geospatial Data Analysis and GIS (staff).
- Two elective courses, to be chosen in consultation with the major adviser, from among current offerings in Anthropology, Classical and Near Eastern Archaeology and Geology. One of these two courses must be from...
outside the student’s major. Suggested courses include but are not limited to ARCH 135 (HALF-CREDIT: Archaeological Fieldwork and Methods), ANTH 203 (Human Ecology), ANTH 220 (Methods and Theory), ARCH 330 (History of Archaeology and Theory), ANTH 225 (Paleolithic Archaeology), ANTH 240 (Traditional Technologies), ARCH 308 (Ceramic Analysis), ARCH 332 (Field Techniques), GEOL 202 (Mineralogy), GEOL 205 (Sedimentology), GEOL 310 (Geophysics), and GEOL 312 (Quaternary Climates).

REQUIREMENTS FOR HONORS
Honors are granted on the basis of academic performance as demonstrated by a cumulative average of 3.5 or better in the major.

INDEPENDENT RESEARCH
Majors who wish to undertake independent research, especially for researching and writing a lengthy paper, must arrange with a professor who is willing to advise them, and consult with the major adviser. Such research normally would be conducted by seniors as a unit of Supervised Work (403), which must be approved by the advising professor before registration. Students planning to do such research should consult with professors in the department in the spring semester of their junior year or no later than the beginning of the fall semester of the senior year.

LANGUAGES
Majors who contemplate graduate study in Classical fields should incorporate Greek and Latin into their programs. Those who plan graduate work in Near Eastern or Egyptian may take appropriate ancient languages at the University of Pennsylvania, such as Middle Egyptian, Akkadian and Sumerian. Any student considering graduate study in Classical and Near Eastern Archaeology should study French and German.

STUDY ABROAD
A semester of study abroad is encouraged if the program is approved by the department. Students are encouraged to consult with faculty, since some programs the department may approve may not yet be listed at the Office of International Programs. Students who seek major credit for courses taken abroad must consult with the major adviser before enrolling in a program. Major credit is given on a case-by-case basis after review of the syllabus, work submitted for a grade, and a transcript. Credit will not be given for more than one course and not for courses that are ordinarily offered by the department.

FIELDWORK
The department strongly encourages students to gain fieldwork experience and assists them in getting positions on field projects in North America and overseas. The department is undertaking several field projects in which undergraduates may be invited to participate.

Professor Peter Magee conducts a for-credit field school at Muweilah, al-Hamriya and Tell Abraq in the United Arab Emirates. Undergraduate and graduate students participate in this project, which usually takes place during the winter break. He sends an announcement about how to apply for a position in the fall of each year. Students who participate for credit sign up for a 403 independent study with Professor Magee.

Professor Astrid Lindenlauf is also beginning a new excavation project at the ancient Greek trading post of Naukratis in Egypt, and the opportunities for work there will expand as the project gets under way.

MUSEUM INTERNSHIPS
The department is awarded annually two internships by the Nicholas P. Goulandris Foundation for students to work for a month in the Museum of Cycladic Art in Athens, Greece, with an additional two weeks at an archaeological field project. This is an all-expense paid internship for which students may submit an application. An announcement inviting applications is sent in the late fall or beginning of the second semester. Opportunities to work with the College’s archaeology collections are available throughout the academic year and during the summer. Students wishing to work with the collections should consult Marianne Weldon, Collections Manager for Special Collections.

FUNDING FOR INTERNSHIPS AND SPECIAL PROJECTS
The department has two funds that support students for internships and special projects of
their own design. One, the Elisabeth Packard Fund for internships in Art History and Archaeology is shared with the Department of the History of Art, while the other is the Anna Lerah Keys Memorial Prize. Any declared major may apply for these funds. An announcement calling for applications is sent to majors in the spring, and the awards are made at the annual college awards ceremony in April.

**FACULTY**

**Alice Donohue**  
Rhys Carpenter Professor of Classical and Near Eastern Archaeology

**Susan Helft**  
Lecturer

**Astrid Lindenlauf**  
Associate Professor of Classical and Near Eastern Archaeology

**Peter Magee**  
Chair and Professor of Classical and Near Eastern Archaeology and Director of the Middle Eastern Studies Program

**Evrydiki Tasopoulou**  
Visiting Assistant Professor

**James Wright**  
Professor of Classical and Near Eastern Archaeology (*on leave 2016-17*)

**COURSES**

**ARCH B101 INTRODUCTION TO EGYPTIAN AND NEAR EASTERN ARCHAEOLOGY**  
*Staff*  
A historical survey of the archaeology and art of the ancient Near East and Egypt. (*Not Offered 2016-2017*)

**ARCH B102 INTRODUCTION TO CLASSICAL ARCHAEOLOGY**  
*Astrid Lindenlauf*  
A historical survey of the archaeology and art of Greece, Etruria, and Rome. (*Fall 2016*)

**ARCH B104 ARCHAEOLOGY OF AGRICULTURAL AND URBAN REVOLUTIONS**  
*Peter Magee*  
This course examines the archaeology of the two most fundamental changes that have occurred in human society in the last 12,000 years, agriculture and urbanism, and we explore these in Egypt and the Near East as far as India. We also explore those societies that did not experience these changes. Counts towards: Geoarchaeology; Middle Eastern Studies. (*Spring 2017*)

**ARCH B125 CLASSICAL MYTHS IN ART AND IN THE SKY**  
*Astrid Lindenlauf*  
This course explores Greek and Roman mythology using an archaeological and art historical approach, focusing on the ways in which the traditional tales of the gods and heroes were depicted, developed and transmitted in the visual arts such as vase painting and architectural sculpture, as well as projected into the natural environment. (*Fall 2016*)

**ARCH B135 FOCUS: ARCHAEOLOGICAL FIELDWORK AND METHODS**  
*Staff*  
The fundamentals of the practice of archaeology through readings and case studies and participatory demonstrations. Case studies will be drawn from the archives of the Nemea Valley Archaeological Project and material in the College’s collections. Each week there will be a 1-hour laboratory that will introduce students to a variety of fieldwork methods and forms of analysis. This is a half semester Focus course. Counts towards: Geoarchaeology. (*Not Offered 2016-2017*)

**ARCH B137 FOCUS: INTRODUCTION INTO PRINCIPLES OF PRESERVATION & CONSERVATION**  
*Staff*  
This half-unit introductory course provides insights into the fundamentals of the practices of archaeological preservation and conservation and enhances the understanding of their significance in the archaeological process. This half-course deals exclusively with excavated materials that are still on-site or have been moved to a storage facility or a museum. Materials considered in this course include architecture, textiles, and portable objects made of clay, stone, and metal. While most of the finds are from land sites, occasional references to marine material are made. Most of the material used in the hands-on sessions comes from the Special Collections. Suggested preparation: basic
understanding of chemistry is helpful. (Not Offered 2016-2017)

ARCH B203 ANCIENT GREEK CITIES AND SANCTUARIES
Evrydiki Tasopoulou
A study of the development of the Greek city-states and sanctuaries. Archaeological evidence is surveyed in its historic context. The political formation of the city-state and the role of religion is presented, and the political, economic, and religious institutions of the city-states are explored in their urban settings. The city-state is considered as a particular political economy of the Mediterranean and in comparison to the utility of the concept of city-state in other cultures. (Fall 2016)

ARCH B204 ANIMALS IN THE ANCIENT GREEK WORLD
Staff
This course focuses on perceptions of animals in ancient Greece from the Geometric to the Classical periods. It examines representations of animals in painting, sculpture, and the minor arts, the treatment of animals as attested in the archaeological record, and how these types of evidence relate to the featuring of animals in contemporary poetry, tragedy, comedy, and medical and philosophical writings. By analyzing this rich body of evidence, the course develops a context in which participants gain insight into the ways ancient Greeks perceived, represented, and treated animals. Juxtaposing the importance of animals in modern society, as attested, for example, by their roles as pets, agents of healing, diplomatic gifts, and even as subjects of specialized studies such as animal law and animal geographies, the course also serves to expand awareness of attitudes towards animals in our own society as well as that of ancient Greece. (Not Offered 2016-2017)

ARCH B205 GREEK SCULPTURE
Staff
One of the best-preserved categories of evidence for ancient Greek culture is sculpture. The Greeks devoted immense resources to producing sculpture that encompassed many materials and forms and served a variety of important social functions. This course examines sculptural production in Greece and neighboring lands from the Bronze Age through the fourth century B.C.E. with special attention to style, iconography and historical and social context. (Not Offered 2016-2017)

ARCH B206 HELLENISTIC AND ROMAN SCULPTURE
Staff
This course surveys the sculpture produced from the fourth century B.C.E. to the fourth century C.E., the period, beginning with the death of Alexander the Great, that saw the transformation of the classical world through the rise of Rome and the establishment and expansion of the Roman Empire. Style, iconography, and production will be studied in the contexts of the culture of the Hellenistic kingdoms, the Roman appropriation of Greek culture, the role of art in Roman society, and the significance of Hellenistic and Roman sculpture in the post-antique classical tradition. (Not Offered 2016-2017)

ARCH B211 THE ARCHAEOLOGY AND ANTHROPOLOGY OF RUBBISH AND RECYCLING
Staff
This course serves as an introduction to a range of approaches to the study of waste and dirt as well as practices and processes of disposal and recycling in past and present societies. Particular attention will be paid to the interpretation of spatial disposal patterns, the power of dirt(y waste) to create boundaries and difference, and types of recycling. (Not Offered 2016-2017)

ARCH B215 CLASSICAL ART
Alice Donahue
A survey of the visual arts of ancient Greece and Rome from the Bronze Age through Late Imperial times (circa 3000 B.C.E. to 300 C.E.). Major categories of artistic production are examined in historical and social context, including interactions with neighboring areas and cultures; methodological and interpretive issues are highlighted. (Fall 2016)

ARCH B224 WOMEN IN THE ANCIENT NEAR EAST
Staff
A survey of the social position of women in the ancient Near East, from sedentary villages to empires of the first millennium B.C.E. Topics include critiques of traditional concepts of gender
in archaeology and theories of matriarchy. Case studies illustrate the historicity of gender concepts: women’s work in early village societies; the meanings of Neolithic female figurines; the representation of gender in the Gilgamesh epic; the institution of the “Tawananna” (queen) in the Hittite empire; the indirect power of women such as Semiramis in the Neo-Assyrian palaces. Reliefs, statues, texts and more indirect archaeological evidence are the basis for discussion. Counts towards: Gender and Sexuality Studies. (Not Offered 2016-2017)

ARCH B226 ARCHAEOLOGY OF ANATOLIA
Evrydiki Tasopoulou
One of the cradles of civilization, Anatolia witnessed the rise and fall of many cultures and states throughout its ancient history. This course approaches the ancient material remains of pre-classical Anatolia from the perspective of Near Eastern archaeology, examining the art, artifacts, architecture, cities, and settlements of this land from the Neolithic through the Lydian periods. Some emphasis will be on the Late Bronze Age and the Iron Age, especially phases of Hittite and Assyrian imperialism, Late Hittite states, Phrygia, and the Urartu. (Spring 2017)

ARCH B228 THE ARCHAEOLOGY OF IRAN: FROM THE NEOLITHIC TO ALEXANDER THE GREAT
Staff
This course examines the archaeology of Iran from circa 6000 BC to the coming of Alexander the Great at the end of the fourth century BC. Through the course we examine the beginnings of agriculture, pastoralism and sedentary settlement in the Neolithic and Chalcolithic periods; Bronze Age interaction between Iran, Mesopotamia, south Asia and the Arabian Gulf; developments within the Iron Age; and the emergence of the Achaemenid Empire (538-332BC). (Not Offered 2016-2017)

ARCH B230 ARCHAEOLOGY AND HISTORY OF ANCIENT EGYPT
Staff
A survey of the art and archaeology of ancient Egypt from the Pre-Dynastic through the Graeco-Roman periods, with special emphasis on Egypt’s Empire and its outside connections, especially the Aegean and Near Eastern worlds. Counts towards: Africana Studies; Middle Eastern Studies. (Not Offered 2016-2017)

ARCH B234 PICTURING WOMEN IN CLASSICAL ANTIQUITY
Astrid Lindenlauf
We investigate representations of women in different media in ancient Greece and Rome, examining the cultural stereotypes of women and the gender roles that they reinforce. We also study the daily life of women in the ancient world, the objects that they were associated with in life and death and their occupations. Counts towards: Gender and Sexuality Studies. (Spring 2017)

ARCH B238 LAND OF BUDDHA: THE ARCHAEOLOGY OF SOUTH ASIA, FIRST MILLENNIUM B.C.E.
Staff
This course uses archaeological evidence to reconstruct social and economic life in South Asia from ca. 1200 to 0 B.C.E. We examine the roles of religion, economy and foreign trade in the establishment of powerful kingdoms and empires that characterized this region during this period. (Not Offered 2016-2017)

ARCH B240 ARCHAEOLOGY AND HISTORY OF ANCIENT MESOPOTAMIA
Staff
A survey of the material culture of ancient Mesopotamia, modern Iraq, from the earliest phases of state formation (circa 3500 B.C.E.) through the Achaemenid Persian occupation of the Near East (circa 331 B.C.E.). Emphasis will be on art, artifacts, monuments, religion, kingship, and the cuneiform tradition. The survival of the cultural legacy of Mesopotamia into later ancient and Islamic traditions will also be addressed. Counts towards: Middle Eastern Studies. (Not Offered 2016-2017)

ARCH B244 GREAT EMPIRES OF THE ANCIENT NEAR EAST
Susan Helft
A survey of the history, material culture, political and religious ideologies of, and interactions among, the five great empires of the ancient Near East of the second and first millennia B.C.E.: New Kingdom Egypt, the Hittite Empire in Anatolia, the Assyrian and Babylonian Empires in Mesopotamia, and the Persian Empire in Iran. Counts towards: Middle Eastern Studies. (Fall 2016)
CLASSICAL AND NEAR EASTERN ARCHAEOLOGY

ARCH B252 POMPEII
Staff
Introduces students to a nearly intact archaeological site whose destruction by the eruption of Mt. Vesuvius in 79 C.E. was recorded by contemporaries. The discovery of Pompeii in the mid-1700s had an enormous impact on 18th- and 19th-century views of the Roman past as well as styles and preferences of the modern era. Informs students in classical antiquity, urban life, city structure, residential architecture, home decoration and furnishing, wall painting, minor arts and craft and mercantile activities within a Roman city. (Not Offered 2016-2017)

ARCH B254 CLEOPATRA
Evrydiki Tasopoulou
This course examines the life and rule of Cleopatra VII, the last queen of Ptolemaic Egypt, and the reception of her legacy in the Early Roman Empire and the western world from the Renaissance to modern times. The first part of the course explores extant literary evidence regarding the upbringing, education, and rule of Cleopatra within the contexts of Egyptian and Ptolemaic cultures, her relationships with Julius Caesar and Marc Antony, her conflict with Octavian, and her death by suicide in 30 BCE. The second part examines constructions of Cleopatra in Roman literature, her iconography in surviving art, and her contributions to and influence on both Ptolemaic and Roman art. A detailed account is also provided of the afterlife of Cleopatra in the literature, visual arts, scholarship, and film of both Europe and the United States, extending from the papal courts of Renaissance Italy and Shakespearean drama, to Thomas Jefferson’s art collection at Monticello and Joseph Mankiewicz’s 1963 epic film, Cleopatra. Counts towards: Gender and Sexuality Studies. (Spring 2017)

ARCH B260 DAILY LIFE IN ANCIENT GREECE AND ROME
Alice Donahue
The often-praised achievements of the classical cultures arose from the realities of day-to-day life. This course surveys the rich body of material and textual evidence pertaining to how ancient Greeks and Romans—famous and obscure alike—lived and died. Topics include housing, food, clothing, work, leisure, and family and social life. (Spring 2017)

ARCH B301 GREEK VASE-PAINTING
Staff
This course is an introduction to the world of painted pottery of the Greek world, from the 10th to the 4th centuries B.C.E. We will interpret these images from an art-historical and socio-economic viewpoint. We will also explore how these images relate to other forms of representation. Prerequisite: one course in classical archaeology or permission of instructor. (Not Offered 2016-2017)

ARCH B303 CLASSICAL BODIES
Alice Donahue
An examination of the conceptions of the human body evidenced in Greek and Roman art and literature, with emphasis on issues that have persisted in the Western tradition. Topics include the fashioning of concepts of male and female standards of beauty and their implications; conventions of visual representation; the nude; clothing and its symbolism; the athletic ideal; physiognomy; medical theory and practice; the visible expression of character and emotions; and the formulation of the “classical ideal” in antiquity and later times. Counts towards: Gender and Sexuality Studies. (Spring 2017)

ARCH B304 ARCHAEOLOGY OF GREEK RELIGION
Staff
This course approaches the topic of ancient Greek religion by focusing on surviving archaeological, architectural, epigraphical, artistic and literary evidence that dates from the Archaic and Classical periods. By examining a wealth of diverse evidence that ranges, for example, from temple architecture, and feasting and banqueting equipment to inscriptions, statues, vase paintings, and descriptive texts, the course enables the participants to analyze the value and complexity of the archaeology of Greek religion and to recognize its significance for the reconstruction of daily life in ancient Greece. Special emphasis is placed on subjects such as the duties of priests and priestesses, the violence of animal sacrifice, the function of cult statues and votive offerings and also the important position of festivals and hero and mystery cults in ancient Greek religious thought and experience. (Not Offered 2016-2017)
ARCH B305 TOPICS IN ANCIENT ATHENS  
*Astrid Lindenlauf*  
This is a topics course. Course content varies.  
Acropolis: This course is an introduction to the Acropolis of Athens, perhaps the best-known acropolis in the world. We will explore its history, understand and interpret specific monuments and their sculptural decoration and engage in more recent discussions, for instance, on the role of the Acropolis played in shaping the Hellenic Identity. (Fall 2016)

ARCH B308 CERAMIC ANALYSIS  
*Peter Magee*  
Pottery is a fundamental means of establishing the relative chronology of archaeological sites and of understanding past human behavior. Included are theories, methods and techniques of pottery description, analysis and interpretation. Topics include typology, seriation, ceramic characterization, production, function, exchange and the use of computers in pottery analysis. Laboratory work on pottery in the department collections. Prerequisite(s): permission of instructor. Counts towards: Geoarchaeology. (Spring 2017)

ARCH B312 THE EASTERN MEDITERRANEAN IN THE LATE BRONZE AGE  
*Susan Helft*  
This course is focused on the artistic interconnections among Egypt, Syria, Anatolia, and the Aegean during the Late Bronze Age (ca. 1500-1200 BCE) and their Middle Bronze Age (ca. 2000-1500 BCE) background. Prerequisite(s): ARCH B101 or B216 or B226 or B230 or B240 or B244. (Spring 2017)

ARCH B316 TRADE AND TRANSPORT IN THE ANCIENT WORLD  
*Staff*  
Issues of trade, commerce and production of export goods are addressed with regard to the Bronze Age and Iron Age cultures of Mesopotamia, Arabia, Iran and south Asia. Crucial to these systems is the development of means of transport via maritime routes and on land. Archaeological evidence for traded goods and shipwrecks is used to map the emergence of sea-faring across the Indian Ocean and Gulf while bio-archaeological data is employed to examine the transformative role that Bactrian and Dromedary camels played in ancient trade and transport. (Not Offered 2016-2017)

ARCH B323 ON THE TRAIL OF ALEXANDER THE GREAT  
*Staff*  
This course explores the world of Alexander the Great and the Hellenistic world on the basis of a variety of sources. Particular focus is put on the material culture of Macedonia and Alexander’s campaigns that changed forever the nature and boundaries of the Greek world. Prerequisite(s): a course in classical archaeology or permission of the instructor. (Not Offered 2016-2017)

ARCH B329 ARCHAEOLOGY AND NATIONAL IMAGINATION IN MODERN GREECE  
*Staff*  
This course explores the link between archaeology, antiquity and the national imagination in modern Greece from the establishment of the Greek state in the early nineteenth century to present times. Drawing from a variety of disciplines, including history, archaeology, art history, sociology, anthropology, ethnography, and political science, the course examines the pivotal role of archaeology and the classical past in the construction of national Greek identity. Special emphasis is placed on the concepts of Hellenism and nationalism, the European rediscovery of Greece in the Romantic era, and the connection between classical archaeology and Philhellenism from the eighteenth to the twentieth centuries. Additional topics of study include the presence of foreign archaeological schools in Greece, the Greek perception of archaeology, the politics of display in Greek museums, and the importance and power of specific ancient sites, monuments, and events, such as the Athenian Acropolis, the Parthenon, and the Olympic Games, in the construction and preservation of Greek national identity. (Not Offered 2016-2017)

ARCH B359 TOPICS IN CLASSICAL ART AND ARCHAEOLOGY  
*Staff*  
This is a topics course. Course content varies. Prerequisites: 200-level coursework in some aspect of classical or related cultures, archeology or art history. (Not Offered 2016-2017)
ARCH B398 SENIOR SEMINAR  
*Peter Magee*  
A weekly seminar on topics to be determined with assigned readings and oral and written reports. (Fall 2016)

ARCH B399 SENIOR SEMINAR  
A weekly seminar on common topics with assigned readings and oral and written reports. (Spring 2017)

ARCH B403 SUPERVISED WORK  
(Fall 2016, Spring 2017)

ARCH B501 GREEK VASE PAINTING  
*Staff*  
This course is an introduction to the world of painted pottery of the Greek world, from the 10th to the 4th centuries B.C.E. We will interpret these images from an art-historical and socio-economic viewpoint. We will also explore how these images relate to other forms of representation. 
Prerequisite(s): one course in classical archaeology or permission of instructor. (Not Offered 2016-2017)

ARCH B504 ARCHAEOLGY OF GREEK RELIGION  
*Staff*  
This course approaches the topic of ancient Greek religion by focusing on surviving archaeological, architectural, epigraphical, artistic and literary evidence that dates from the Archaic and Classical periods. By examining a wealth of diverse evidence that ranges, for example, from temple architecture, and feasting and banqueting equipment to inscriptions, statues, vase paintings, and descriptive texts, the course enables the participants to analyze the value and complexity of the archaeology of Greek religion and to recognize its significance for the reconstruction of daily life in ancient Greece. Special emphasis is placed on subjects such as the duties of priests and priestesses, the violence of animal sacrifice, the function of cult statues and votive offerings and also the important position of festivals and hero and mystery cults in ancient Greek religious thought and experience. (Not Offered 2016-2017)

ARCH B508 CERAMIC ANALYSIS  
*Peter Magee*  
Pottery is fundamental for establishing the relative chronology of archaeological sites and past human behavior. Included are theories, methods and techniques of pottery description, analysis, and interpretation. Topics are typology, seriation, ceramic characterization, production, function, exchange and the use of computers in pottery analysis. Laboratory in the collections. (Spring 2017)

ARCH B516 TRADE AND TRANSPORT IN THE ANCIENT WORLD  
*Staff*  
Issues of trade, commerce and production of export goods are addressed with regard to the Bronze Age and Iron Age cultures of Mesopotamia, Arabia, Iran and south Asia. Crucial to these systems is the development of means of transport via maritime routes and on land. Archaeological evidence for traded goods and shipwrecks is used to map the emergence of sea-faring across the Indian Ocean and Gulf while bio-archaeological data is employed to examine the transformative role that Bactrian and Dromedary camels played in ancient trade and transport. (Not Offered 2016-2017)

ARCH B529 ARCHAEOLOGY AND NATIONAL IMAGINATION IN MODERN GREECE  
*Staff*  
This course explores the link between archaeology, antiquity and the national imagination in modern Greece from the establishment of the Greek state in the early nineteenth century to present times. Drawing from a variety of disciplines, including history, archaeology, art history, sociology, anthropology, ethnography, and political science, the course examines the pivotal role of archaeology and the classical past in the construction of national Greek identity. Special emphasis is placed on the concepts of Hellenism and nationalism, the European rediscovery of Greece in the Romantic era, and the connection between classical archaeology and Philhellenism from the eighteenth to the twentieth centuries. Additional topics of study include the presence of foreign archaeological schools in Greece, the Greek perception of archaeology, the politics of display in Greek museums, and the importance and power of specific ancient sites, monuments, and events, such as the Athenian Acropolis, the Parthenon, and the Olympic Games, in the construction and preservation of Greek national identity. (Not Offered 2016-2017)
ARCH B552 EGYPTIAN ARCHITECTURE: NEW KINGDOM  
*Staff*
A proseminar that concentrates on the principles of ancient Egyptian monumental architecture with an emphasis on the New Kingdom. The primary focus of the course is temple design, but palaces, representative settlements, and examples of Graeco-Roman temples of the Nile Valley will also be dealt with. (Not Offered 2016-2017)

ARCH B605 THE CONCEPT OF STYLE  
*Staff*
Style is a fundamental concern for historians of art. This seminar examines concepts of style in ancient and post-antique art historiography, focusing on the historical and intellectual contexts in which they arose. Special attention is paid to the recognition and description of style, explanations of stylistic change, and the meanings attached to style, particularly in classical and related art. (Not Offered 2016-2017)

ARCH B623 ON THE TRAIL OF ALEXANDER THE GREAT  
*Staff*
This course explores the world of Alexander the Great and the Hellenistic world based on a variety of sources. Particular focus is put on the material culture of Macedonia and Alexander’s campaigns that changed forever the nature and boundaries of the Greek world. Prerequisite(s): a course in Classical Archaeology or permission of the instructor. (Not Offered 2016-2017)

ARCH B669 ANCIENT GREECE AND THE NEAR EAST  
*Evrydiki Tasopoulou*
Approaches to the study of interconnections between Ancient Greece and the Near East, mainly in the Iron Age, with emphasis on art, architecture, and intellectual perspective. (Spring 2017)

ARCH B672 ARCHAEOLOGY OF RUBBISH  
*Staff*
This course explores a range of approaches to the study of waste and dirt as well as practices and processes of disposal and recycling in past and present societies. Particular attention will be paid to understanding and interpreting spacial disposal patterns, identifying votive deposits (bothroi), and analyzing the use of dirty waste in negotiating social differences. (Not Offered 2016-2017)

ARCH B692 ARCHAEOLOGY OF ACHAEMENID ERA  
*Peter Magee*
The course explores the archaeology of the Achaemenid Empire. It will be offered in conjunction with Professor Lauren Ristvet (UPenn) and will cover the archaeology of the regions from Libya to India fro 538 to 332 BC. Students will be expected to provide presentations as well as written work. (Fall 2016)

ARCH B608 MEDITERRANEAN LANDSCAPE ARCHAEOLOGY  
*Staff*
This course explores a range of approaches to the study of landscapes that relates to core principles of the field of archaeology. It also discusses the construction of specific landscapes in the Mediterranean (e.g., gardens, sacred landscapes, and memoryscapes). (Not Offered 2016-2017)

ARCH B617 HERCULANEUM: VILLA DEI PAPIRI  
*Staff*
The Villa of the Papyri is a ‘villa suburbana’ that housed a large collection of sculptures. Its reconstruction became famous as the Getty Villa. This Villa will serve as an ‘exemplum’ of a Roman villa to explore topics including early excavation techniques, libraries and the Epicurean philosophy, the concepts and meanings of villae, as well as the placement of statues and copy criticism. (Not Offered 2016-2017)

ARCH B628 ASSYRIA AND THE WEST: NEO-HITTITE STATES  
*Staff*
This seminar revolves around the art and architecture of the Neo-Hittite states of the Iron Age in Syro-Anatolia from the lens of their relations with the Neo-Assyrian Empire. (Not Offered 2016-2017)

ARCH B643 MORTUARY PRACTICES  
*Evrydiki Tasopoulou*
This seminar focuses on the mortuary practices of the ancient Greek and Macedonian worlds from the Iron Age to the end of the Hellenistic period. Special emphasis is placed on the examination of skeletal remains, funerary offerings, the art, and
architecture of specific archaeological sites and on the study of various issues in the archaeology of death. (Fall 2016)

ARCH B654 THE ARCHAEOLOGY OF PREHISTORIC ARABIA
Staff
In this course we examine the archaeology of prehistoric Arabia from c. 8000 to 500 BC. Particular emphasis is placed upon how the archaeological evidence illuminates social and economic structures. (Not Offered 2016-2017)

ARCH B701 SUPERVISED WORK
Alice Donohue, Peter Magee, Astrid Lindenlauf, Mehmet-Ali Atac
Unit of supervised work. (Fall 2016, Spring 2017)

CSTS B213 PERSIA AND THE GREEKS
Staff
This course explores interactions between Greeks and Persians in the Mediterranean and Near East from the Archaic Period to the Hellenistic Age. Through a variety of sources (from Greek histories, tragedies, and ethnography, to Persian royal inscriptions and administrative documents and the Hebrew Bible), we shall work to illuminate the interface between these two distinct yet complementary cultures. Our aim will be to gain familiarity not only with a general narrative of Greco-Persian history, from the foundation of the Achaemenid Empire in the middle of the sixth century BCE to the Macedonian conquest of Persia some 250 years later, but also with the materials (archaeological, numismatic, epigraphical, artistic, and literary) from which we build such a narrative. At the same time, we shall work to understand how contact between Persia and the Greeks in antiquity has influenced discourse about the opposition between East and West in the modern world. (Not Offered 2016-2017)

CSTS B230 FOOD AND DRINK IN THE ANCIENT WORLD
Staff
This course explores practices of eating and drinking in the ancient Mediterranean world both from a socio-cultural and environmental perspective. Since we are not only what we eat, but also where, when, why, with whom, and how we eat, we will examine the wider implications of patterns of food production, preparation, consumption, availability, and taboos, considering issues like gender, health, financial situation, geographical variability, and political status. Anthropological, archaeological, literary, and art historical approaches will be used to analyze the evidence and shed light on the role of food and drink in ancient culture and society. In addition, we will discuss how this affects our contemporary customs and practices and how our identity is still shaped by what we eat. Counts towards: Gender and Sexuality Studies. (Not Offered 2016-2017)

CSTS B255 SHOW AND SPECTACLE IN ANCIENT GREECE AND ROME
Staff
A survey of public entertainment in the ancient world, including theater and dramatic festivals, athletic competitions, games and gladiatorial combats, and processions and sacrifices. Drawing on literary sources and paying attention to art, archaeology and topography, this course explores the social, political and religious contexts of ancient spectacle. Special consideration will be given to modern equivalents of staged entertainment and the representation of ancient spectacle in contemporary film. (Not Offered 2016-2017)
The Classics Department offers instruction at all levels in Greek and Latin language and literature, in cooperation with the Bryn Mawr Department of Greek, Latin, and Classical Studies. Courses in Classical Studies provide opportunities to study ancient history, literature, and culture in English translation.

What Is Classics?
Classics, in the broadest sense, is the study of the ancient Greek and Roman world, its cultures, and their impact on later cultural traditions. The elasticity of these terms (e.g., “ancient,” “culture,” “Roman”) gives the discipline dynamism, but its shared center is a common body of texts. While careful study of these works of literature, history, philosophy and drama is vital to our discipline, the classicist touches all aspects of life and culture in ancient Greek and Roman society, including the areas of history, law, religion, material culture, art, family life, politics, and philosophy. Classics is also interested in how later peoples understood and transformed this inheritance, generating the rich Classical tradition in literature and the other arts.

Why Study Classics?
Classics provides a rigorous environment to improve critical thinking and communication. Latin and Greek in particular equip students with a greater facility in understanding the potential and limitations of language itself as it is practiced in speech and literature. As Theodor Seuss Geisel (i.e., Dr. Seuss) put it, Classics “allows you to adore words, take them apart and find out where they came from.”

One of the greatest benefits of Classics—as major, minor, or single class experiment—is the bracing experience of encountering through text and across a vast gulf of time people who are at once familiar and strange. Clearly influential on how we think, act and feel and yet radically different from us.

Such training can also enrich study in other disciplines, most notably related fields like philosophy, comparative literature, and history, where knowledge of the enduring character of Classical models can provide valuable insights. For the same reason a student’s prior interests and knowledge can provide illumination and even find completion in the study of the ancient world.

With honest and critical engagement this encounter can leave us changed as freer and more powerful thinkers.

Studying Classics prepares our students for a variety of careers after graduation. Some have pursued advanced degrees in Classics or related fields (e.g. archaeology, religion, comparative literature, medieval studies); others have studied medicine or law; still others have chosen careers in journalism, in business, in technology, in publishing, in social work, in museum curatorship, and in secondary education.

LEARNING GOALS
• Students will learn ancient Greek or Latin (or both), cultivating an urgent connoisseurship of the word. Through this “love for words upon words, words in continuation and modification” (Eudora Welty), we acquire the power to analyze and interpret the foundational texts of western philosophy, history, oratory, fiction, and poetry in their original forms.
• Students will connect with thought-provoking and influential texts from antiquity, embracing “this rich source of delight” (Thomas Jefferson) and considering the benefits of the canon—and its dangers.
• Students will confront the most persistent questions about the nature of the human condition, heeding the Socratic warning that “the unexamined life is not worth living” (ὁ δὲ ἄνεξέλεγκτος βίος οὐ βιωτός ἄνθρωπος, Plato, Apology 38a).
• Students will carry their education with them, becoming speakers of words and doers of deeds (μὴ ὁμων τε ῥητῆρ έμεναι πρηκτὴρα τε ἔργων, Homer, Iliad 9.443), striving to become human beings to whom nothing human is foreign (homo sum: humani nil a me alienum puto, Terence, HT 77).
• Students will not strive to amass a cache of the trivial or ephemeral but will forge a community of learning in partnership with faculty and students in the full spirit of Haverford’s motto (non doctior sed meliore doctrina imbutus).
• Students will, at the culmination of their studies, answer an important question about Classical culture or its reception with theoretical rigor, in dialogue with the work of
other scholars, and under the auspices of a faculty mentor.

CURRICULUM
The major programs in Classics reflect the diversity of the field: students may major in Classical Culture and Society, Classical Languages (Greek and Latin), or Greek or Latin (with a related modern field). We encourage majors to study abroad during a semester of their junior year in Greece, Italy, or any other country with a strong tradition in Classical studies. Students may choose from three minors, each of which requires six courses: Greek, Latin, or Classical Culture and Society. Students may also major or minor in the Department of Classical and Near Eastern Archaeology at Bryn Mawr.

MAJOR REQUIREMENTS

Classical Culture and Society
Haverford's major and minor in Classical Culture and Society offers students the opportunity to explore life in Classical antiquity in all of its dimensions—from language, to literature, to history, philosophy, archaeology, and more—as well as its impact on later cultural traditions. It is designed to allow the student to use a strong foundation in Greek or Latin as the springboard for a focused study of the culture and society of Classical antiquity, concentrating in one of the following areas: archaeology and art history, philosophy and religion, literature and the Classical tradition, history and society.

- Two semesters in either Latin or Greek beyond the elementary level.
- One course in Greek or Roman history.
- Three courses in an area of concentration (Literature & the Classical Tradition, Philosophy & Religion, Archaeology & Art History, or History & Society), at least two of which must be at the 200 level or above.
- Three electives in Classical Studies, at least one of which must be in history & society (except in the case of History & Society concentrators).
- Completion of the Majors’ Reading List (see departmental website).
- Senior Seminar and Thesis (398/399).

Classical Languages
Haverford’s Classical Languages major offers students the opportunity to gain proficiency in both Greek and Latin and to explore Classical texts and the literary, historical, and philosophical contexts in which they emerged.

- Eight semester courses beyond the elementary level divided between Greek and Latin, of which at least two in each language must be at the 200 level or above.
- Completion of the Majors’ Reading List (see departmental website).
- Senior Seminar (398/399).

Greek or Latin
Students who major in Greek or Latin pursue an intensive curriculum in one of the two languages, and in addition do work at the advanced level in an allied field which might itself be Classical Studies, but might also be English or another language, comparative literature, philosophy, religion, history, art history, archaeology, computer science or music—indeed, almost any discipline that the student can connect to his or her intellectual interests as complementary of his or her language studies.

- Six courses beyond the introductory level in one language, of which at least four must be at the 200 level or above.
- A minimum of three semester courses beyond the introductory level in a related field.
- Completion of the Majors’ Reading List (see departmental website).
- Senior Seminar and Thesis (398/399).

Classical and Near Eastern Archaeology
Haverford students often pursue coursework and research on the material culture of the ancient world within one of our major programs. Our students may also complete a major or minor in Archaeology or a component of the Concentration in Geoarchaeology through the Department of Classical and Near Eastern Archaeology at Bryn Mawr. The archaeology program is interdisciplinary and encourages students to take advantage of related offerings in Departments of Anthropology, Classics, Geology, History, History of Art, and the Program in the Growth and Structure of Cities. The Ella Riegel Memorial Collection of over 6,000 artifacts is used in instruction. In collaboration with the Departments of Geology, Biology and Anthropology, the Concentration in Geoarchaeology is offered together with coursework and laboratory training in geographic information systems.

Majors’ Reading List
The Majors’ Reading List consists of a group of essential Greek and Latin texts selected by the faculty, to be read in English (if not in the original)
by the beginning of the senior year. Many of these texts will have been assigned in different classes, while others will complement class readings. By reading, considering, and discussing the texts on the list, Classics students—whatever the focus of their particular major—will emerge with a stronger common basis for discussion and with a better sense of the range and depth of the Classical heritage. For most works a particular translation or translations is suggested on the department website, but if students would like to read a different version, they may consult with any faculty member to learn whether the translation is a reasonable alternative. (The list is posted on the departmental website.)

MINOR REQUIREMENTS

Classical Culture and Society
Six courses drawn from the range of courses counted towards Classical Culture and Society. Of these, two must be in Greek or Latin at the 100 level or above and at least one must be in Classical Culture and Society at the 200 level.

Greek
Six semester courses in Greek, at least two of which must be at the 200 level or above. The department may reduce the number of required courses for those who are already beyond the elementary language when they begin the minor.

Latin
Six semester courses in Latin, at least two of which must be at the 200 level or above. The department may reduce the number of required courses for those who are already beyond the elementary language when they begin the minor.

SENIOR PROJECT

The senior experience in the Department of Classics builds towards the writing of a senior thesis (typically 35 to 45 pages) on a topic of the student’s choice, under the guidance of two faculty members. In their theses, Classics students present original work based on serious and extensive research, extending knowledge about antiquity and its reception in innovative and illuminating ways.

Senior Seminar, a weekly course conducted during the fall semester, provides a forum in which students are introduced to a variety of theoretical approaches, further develop the ability to read and critique scholarship, and learn about resources for research in the field; it also gives them an opportunity to craft an interesting and appropriate question that they will explore in the thesis they write during the spring semester.

Senior Project Learning Goals
In the process of writing the senior thesis, students should acquire and demonstrate:
• the ability to craft an interesting and appropriate question in order to make a new contribution to the field of Classics.
• the ability to read relevant ancient texts, in the original languages as appropriate, and to discuss and analyze aspects of Classical culture.
• a familiarity with relevant modern scholarship and engagement with the methods and standards of the discipline of Classics.
• the ability to develop an article-length paper, consisting of original work, under the mentorship of two faculty.

Senior Project Assessment
The thesis is evaluated on the following criteria:
• Conceptualization of an original research question
Students strive to acknowledge and explore the full implications of an innovative thesis question. Students demonstrate with depth and precision the importance of the question and what is at stake in answering it.
• Familiarity with and understanding of primary texts
Students engage primary sources to answer their research question. Their primary evidence is well organized, exhaustive, and integrated with the continuing scholarly conversation to which they are contributing. Students strive to display a creative approach to existing sources or bring new and illuminating sources to bear on their research question.
• Engagement with secondary literature
Students demonstrate comprehensive mastery of scholarly literature as it pertains to the thesis topic by synthesis of and contribution to the scholarly conversation.
• Methodological and theoretical approach
Students ground their theses in current knowledge about antiquity, demonstrating a thorough understanding of relevant methodological and theoretical issues.
• Quality of argument
  Students construct a well-reasoned, well structured, and clearly expressed argument; the line of thought emerges clearly, and the conclusions are persuasive.

• Clarity of writing
  Writing is consistently engaging, clear, well organized, and enjoyable to read.

• Oral presentation
  At the end of the semester, students demonstrate comprehensive understanding of their topic in an articulate and engaging presentation and are able to provide innovative and thoughtful answers to questions.

REQUIREMENTS FOR HONORS
Students demonstrating superior performance in course work in the major and on the senior thesis will be eligible for departmental honors. To qualify for honors, students must have a cumulative GPA of at least 3.7 in their major courses (3.85 for high honors) and earn a grade of at least 3.7 on the senior thesis (3.85 for high honors).

STUDY ABROAD
The Classics Department encourages its students to study abroad in Greece or Italy, usually for a semester in their junior year. Students interested in studying abroad should talk to a member of the Classics faculty. For further information about studying abroad at Haverford, visit the Study Abroad website.

The most popular programs in Greece and Italy include:

College Year in Athens
College Year in Athens, or CYA, is a study abroad program focused upon the history and civilization of Greece and the East Mediterranean region. Its mission is to offer each student an academically rigorous program of studies combined with the vibrant experience of day-to-day contact with people, monuments, and landscape of Greece.

College Year in Athens Information
Intercollegiate Center for Classical Studies in Rome At the “Centro” students can study Latin, Greek, Italian, art history, and the ancient city in Rome; they also take field trips in Rome, Pompeii, and Sicily.

Students planning on studying abroad at the Centro are strongly encouraged to take Roman History (or equivalent) before applying.

PRIZES
Departmental Classics Prizes
• The Daniel Gillis and Joseph Russo Prize is awarded for the best essay in Classical Studies.
• The William K. Baker Prize in Greek is presented by the Classics Department.
• The Howard Comfort Prize in Latin is presented by the Classics Department.
• The Class of 1896 Prize in Latin for Sophomores is awarded to the sophomore who has done the best work in Latin.
• The Class of 1902 Prize in Latin for Freshmen is awarded to the freshman who has done the best work in the Department.
• The Mark L. Hepps Prize is awarded in memory of Mark Larry Hepps ’79. This prize is awarded for diligence in the study of elementary Latin.
• CAMWS Award for Outstanding Accomplishment in Classical Studies.

Utraque Lingua Grants
The Utraque Lingua Grants support further study of Latin and Greek by Haverford students.

Fellowships
• Augustus Taber Murray Research Fellowships
• Mellon Mays Undergraduate Fellowship

SPECIAL PROGRAMS
The department’s extra-curricular life includes visiting speakers, occasional expeditions to plays or museums in Philadelphia and New York City, the annual Bi-College ORALiTea (an occasion for the recitation of Greek & Latin literature), annual public marathon readings of Classical texts, Latin scavenger hunts, student reading groups and other departmental convivia.

The faculty encourages and supports events that are organized by students. Bryn Mawr hosts a weekly Classics Tea and Colloquium featuring visiting lectures.

FACULTY
Bret Mulligan
Chair and Associate Professor
Deborah H. Roberts
William R. Kenan Jr. Professor of Classics and Comparative Literature

Robert Germany
Associate Professor

Hannah Silverblank
Visiting Assistant Professor

Jeffrey Ulrich
Visiting Assistant Professor

COURSES IN GREEK LANGUAGE AND LITERATURE

GREKH001 ELEMENTARY GREEK
Robert Germany
Introduction to ancient Greek, with selected readings in poetry and prose. This is the first semester of a year-long course. Humanities (HU)

GREKH002 ELEMENTARY GREEK
Robert Germany
Completion of the basics of ancient Greek, followed by readings in Lysias and Plato. This is the second semester of a year-long course. Humanities (HU)

GREKH101 INTRODUCTION TO GREEK LITERATURE: HERODOTUS AND GREEK LYRIC
Staff
Introduction to the study of Greek literature through readings in Herodotus' Histories and selections of Greek lyric poetry. Emphasis will be on developing reading skills and on critical interpretation and discussion. Humanities (HU)

GREKH102 INTRODUCTION TO GREEK POETRY: HOMER
Deborah Roberts
Readings in Homer's Iliad or Odyssey, with critical interpretation and discussion. Prerequisite(s): Greek 101 or equivalent; Humanities (HU)

GREKH202 ADVANCED GREEK: TRAGEDY
Deborah Roberts
Two Greek tragedies and readings in Aristotle’s Poetics. Humanities (HU)

COURSES IN LATIN LANGUAGE AND LITERATURE

LATNH001 ELEMENTARY LATIN
Bret Mulligan
Introduction to the Latin language, including vocabulary, grammar, style, and techniques for reading and translation of poetry and prose; with attention to Roman history, mythology, literature, religion, and more. This is the first semester of a year-long course. Humanities (HU)

LATNH002 ELEMENTARY LATIN
Bret Mulligan
Completion of the introduction to the Latin language, with readings in prose and poetry. Humanities (HU)

LATNH101 INTRODUCTION TO LATIN LITERATURE: ENEMIES OF ROME
Bret Mulligan
Introduction to the study of Latin literature through studying how the Romans described those who resisted the Roman order, from the founding of the city, through the birth of the Republic, its defense against Hannibal, and its cannibalization during the Civil Wars. Humanities (HU)

LATNH102 INTRODUCTION TO LATIN LITERATURE: THE LANGUAGE OF LOVE AND HATE IN THE ROMAN REPUBLIC
Hannah Silverblank
Introduction to the study of Latin literature through readings from Catullus’ poetry and Cicero’s Pro Caelio. Class will include some grammar review, but emphasis will be on developing reading skills and on critical interpretation and discussion. Humanities (HU)

LATNH201 ADVANCED LATIN LITERATURE: VERGIL
Bret Mulligan
Few poems have been read steadily for over 2000 years. Fewer still have become a school text soon after publication and a ‘classic’ of the Western canon, exerting a major influence on European literature, art, and politics. This course will attempt to reveal the enduring appeal of Vergil’s Aeneid through study of all aspects of the work, from its engagement with the literary tradition to its relation to the Augustan ideology to the author’s unique language, imagery, and poetic style. Humanities (HU)
LATNH202 ADVANCED LATIN LITERATURE: LATIN OF THE EMPIRE
Staff
In this course we will read a selection of texts drawn from the imperial period (c.1-200 CE). Humanities (HU)

LATNH203 ADVANCED LATIN LITERATURE: POSTCLASSICAL LATIN
Staff
In this course we will read a selection of texts drawn from the 1600 years of Latin writing after the Classical period (c. 300-1800 CE). Humanities (HU)

LATNH204 ADVANCED LATIN LITERATURE: OVID’S LOVE POETRY
Staff
Focuses on the culminating works of the Latin Elegiac tradition, Ovid’s Amores and Ars Amatoria and their engagement with questions of genre, poetics, subjectivity, fiction, and truth. Selections from other Roman elegists and important scholarship will be read in English. Prerequisite(s): students must have completed at least two semesters of Latin at the 100-level or equivalent; Humanities (HU)

LATNH350 SEMINAR IN LATIN LITERATURE
Staff
An advanced seminar in Latin language and literature, with special emphasis on the interpretation and discussion of texts in Latin and the reading of relevant scholarship. Topic to be determined by faculty; recent topics have included “Poetry and Patronage in Flavian Rome” and “Translating the Classics: Theory, History, Practice.” May be repeated for credit Prerequisite(s): at least one 200-level Latin course or consent; Humanities (HU)

COURSES IN CLASSICAL STUDIES NOT REQUIRING GREEK OR LATIN

CSTSH119 CULTURE AND CRISIS IN THE GOLDEN AGE OF ATHENS
Bret Mulligan
Introduction to Classical culture through a study of the Athenian achievement in literature, politics and philosophy from the Persian Wars to the trial and death of Socrates, largely through primary sources.

The last third of the semester will feature an open-ended, student-led simulation of the aftermath of the Peloponnesian Wars, in which students will debate social reconciliation after the expulsion of the tyrants, the organization of Athenian government, the expansion of citizenship, the future of the Athenian empire, and the fate of Socrates. Crosslisted: PEAC; Humanities (HU)

CSTSH121 THE ROMAN REVOLUTION
Robert Germany and Bret Mulligan
An introduction to the literature and culture of ancient Rome, focusing on the transformative period of the late republic and early principate, including topics such as the Romans’ self-image, religion, sex & gender, and the relationship between art and politics. Humanities (HU)

CSTSH209 CLASSICAL MYTHOLOGY
Staff
An introduction to the primary characters and stories of Greek and Roman mythology including cosmic creation, Olympian and other deities, and heroes both as they appear in Greek and Roman literature and art and as they are later represented in modern art, music, and film. Crosslisted: Comparative Literature; Humanities (HU)

CSTSH210 ATHENS, ROME, PHILADELPHIA: CLASSICS AND THE AMERICAN REVOLUTION
Staff
Humanities (HU)

CSTSH212 REFASHIONING THE CLASSICS: ANCIENT LITERATURE AND MODERN WRITERS
Deborah Roberts
An exploration of the uses of Greek and Latin literature in later writers, with attention to particularly influential ancient authors (Homer, Vergil, Ovid, and others), to a range of modern authors, and to the varieties of literary influence and intertextuality. Humanities (HU)

CSTSH227 RACE AND ETHNICITY IN THE CLASSICAL WORLD
Staff
This course investigates ancient thinking about race and ethnicity, as represented in the literature of the ancient Mediterranean through such authors as Homer, Herodotus, Aeschylus, Aristotle, Vergil, Caesar, and Tacitus. Humanities (HU)
CSTSH290 HISTORY OF LITERARY THEORY: PLATO TO SHELLEY
Deborah Roberts
In this course we investigate central texts in literary theory from the Greeks to early nineteenth-century Europe, with attention to key critical terms and concepts. Topics of discussion include the nature and origin of literary creation, socio-political ideas about the function of poetry and the poet, mimetic models of literature, the roles of art and nature, literature in relation to its audience, theories of genre, defenses of poetry, allegorical interpretation, the idea of the sublime, definitions of the imagination, poetic language, and the application of critical theory to particular texts. Readings include selections from: Plato, Aristotle, Horace, Longinus, Dante, Augustine, Sidney, Corneille, Dryden, Pope, De Stael, Johnson, Wollstonecraft, Wordsworth, Coleridge, Keats, and Shelley. Requirements include 5 short papers and a final exam. Not open to first-year students. Humanities (HU)

CSTSH293 TRANSLATION AND OTHER TRANSFORMATIONS: THEORY AND PRACTICE
Deborah Roberts
An exploration of the theory and practice of translation: from language to language, from culture to culture, and from medium to medium. We will consider different approaches to translation in theoretical writings and in case studies drawn from works in different languages, with attention to changing views and to areas of controversy. Assignments will include both papers and translations, and students may develop translation projects of their own. Prerequisite(s): students must be at least at the intermediate level of one language other than English; Humanities (HU)

CSTSH398 SENIOR SEMINAR
Robert Germany
A bi-college seminar focused on refining the ability to read, discuss, and analyze Classical culture and the scholarship of various sub-fields of Classical Studies (e.g., literature, religion, philosophy, law, social history), leading towards the completion of a prospectus for the senior thesis. Humanities (HU)
Comparative Literature is a joint interdisciplinary program at Haverford and Bryn Mawr. Comparative literature situates literature in an international perspective and examines connections between literary history, literary criticism, critical theory, and poetics, and works toward an understanding of the sociocultural functions of literature. We and our students engage in the close reading of literary texts from different cultures and periods, and we do so from a variety of cultural perspectives, in order to understand both the multiple meanings that inhere in literary language and the socio-cultural functions of literature.

Interpretive methods from other disciplines that interrogate cultural discourses also play a role in the comparative study of literature, including:
- anthropology, philosophy, religion, and history.
- classical studies and cultural studies.
- Africana, Latin American, East Asian and Gender and Sexuality Studies.
- music, the visual arts, and the history of art.

Since Haverford established the major in 1991, our students have gone on to do graduate work in comparative literature and related fields; pursued advanced degrees in business, law, medicine, and journalism; and undertaken careers in translation, international relations and publishing. Graduates with a comparative literature major have successfully entered or completed the Ph.D. and other advanced degree programs in: comparative literature (Columbia, Penn, UC Berkeley, Yale), education (Columbia), film studies (University of Edinburgh), German (Penn), Italian (Columbia), literature (UC San Diego); religion (Emory; Harvard Divinity School), and Spanish (Johns Hopkins, Harvard, Virginia).

LEARNING GOALS
“Observable” and “measurable” outcomes in the major:
- Students should attain advanced skills in a language other than English and show the capacity to analyze and interpret literary and cultural texts in the original language.
- Students should attain advanced skills in the interpretation or translation of the literary texts of two distinct national cultures, in the comparative analysis of these texts across national and/or linguistic boundaries, and in addressing, considering, evaluating, and applying specific methodological or theoretical paradigms.
- Students should demonstrate (through the senior thesis and oral exam) the capacity to:
  - evaluate and discuss the merits of a critical or methodological approach.
  - complete an independent scholarly project.
  - bring together and analyze critically, in light of certain central issues and themes, a selection of works of literature and criticism read over the four years.

CURRICULUM
The availability of resources at Bryn Mawr and Haverford permits the Comparative Literature program to offer an extensive variety of study options, which include:
- literature courses in English and the languages offered at the two Colleges (Spanish, French, German, Italian, Russian, Latin, ancient Greek, Japanese, Chinese, Arabic and Hebrew).
- crosslisted comparative electives taught in English.
- courses in criticism and theory.

Major
We require comparative literature students to have a reading knowledge of at least one language other than English, adequate to the advanced study of literature in that language. Some comparative literature courses may require reading knowledge in the language as a prerequisite for admission.

Students interested in pursuing a comparative literature major should discuss their preparation and program of courses with the comparative literature chair early in their first or second year at the College.

We recommend (but do not require) that:
- majors study abroad during one or two semesters of the junior year.
- students with a possible interest in graduate school begin a second foreign language before they graduate.
MAJOR REQUIREMENTS
- COML 200 (Introduction to Comparative Literature), normally taken by the spring of the sophomore year.
- Six advanced literature courses in the original languages (nominally at the 200 level or above), balanced between two literature departments (of which English may be one): at least two (one in each literature) must be at the 300 level or above, or its equivalent, as approved in advance by the adviser.
- One course in critical theory.
- Two electives in comparative literature.
- COML 398 (Theories and Methods in Comparative Literature).
- COML 399 (Senior Seminar in Comparative Literature).

Both majors and minors are encouraged to work closely with the chairs and members of the steering committee in shaping their programs.

NOTE: Please note that not all topics courses (B223, 299, 321, 325, 326, 340) count toward comparative literature elective requirements. See adviser.

MINOR REQUIREMENTS
Requirements for the minor are COML 200 and 398, plus four additional courses—two each in the literature of two languages. At least one of these four courses must be at the 300 level. Students who minor in comparative literature are encouraged to choose their national literature courses from those with a comparative component.

Both majors and minors are encouraged to work closely with the chairs and members of the steering committee in shaping their programs.

SENIOR PROJECT
Each senior major in comparative literature defines his/her thesis topic in consultation with the faculty members who teach the capstone seminars, COML 398 and 399. In the fall semester, as they near completion of COML 398, students produce a viable senior essay project or prospectus. During the spring semester, students enrolled in the Senior Seminar (COML 399) complete a senior essay of 35-40 pages.

At the end of the spring semester, during the senior exams period, all seniors are required to participate in senior oral exams. Before a panel of three faculty examiners—the two thesis co-advisers plus a member of the Comparative Literature Steering Committee or other relevant faculty member—students respond to questions about the senior thesis during the first half of the exam (approximately 20 minutes) and during the second half (another 20 minutes or so) they answer questions about the list of texts and topics they have submitted in advance. The texts selected for the oral exam are chosen by each student from primary and secondary sources, including films, that they have studied in courses that count toward the major, with no more than two texts from a single class.

The subject of the thesis should build on languages, literary and cultural interests and/or competencies cultivated in coursework at Bryn Mawr and Haverford or abroad. Although the field of comparative literature has undergone major transformations in the past 20 years, its abiding interests remain rooted in textual specificity (close readings of texts) and in intellectual and linguistic diversity. As befits work in this field, the thesis topic should be broadly comparative in nature. Given the broad range of contemporary scholarship in comparative literature, the senior thesis could entail one or several of the following models:

- A study of a critical problem as exemplified in authors or works from two different literary and linguistic traditions (for instance, a comparison of the disintegrating dramatic self in Eugène Ionesco and Tom Stoppard; gender relations in El libro de buen amor and the Canterbury Tales; the representation of AIDS in African and Latin American fiction).
- An exploration of generic or transnational issues in different media (for instance, modernist poetry and jazz; Dante Gabriel Rossetti’s Early Italian Poets and its illustrations; representing the First World War in poetry and film; trauma in film and the novel).
- A critical examination of a problem in literary or cultural theory or literary history (for instance, the “author function” in fictional and ethnographic personal narratives; the representation of gender transitivity in medical discourses and photography).
- A study and translation of a literary work or a critical examination of the cultural and ideological implications in translation (for instance, the role of Jewish translators of Arabic texts into Castilian and the invention of Spain).

Haverford College Catalog 2016-2017
Regardless of the model of comparative work adopted, the thesis should represent a well-rounded synthesis of relevant theoretical approaches. Queer theory and trauma theory, for instance, might both inflect a reading of poets of the First World War; Foucault’s *Discipline and Punish* and other works would allow for interpretations of writing under censorship in the Middle East or Latin America; an understanding of the use of tropes (allegory, irony) or satire might illuminate the narrative strategies employed in offering resistance to censorship; diasporic writers might be approached through theories of translation, cultural memory, or both.

**Senior Project Learning Goals**

Students acquire advanced skills in a language other than English and show the capacity to analyze and interpret literary and cultural texts in the original language, one of which can be English.

Fulfillment of the “comparative” component in the major enables students to bring two distinct national literatures into a critical conversation based on familiarity with the cultural distinctiveness and literary traditions of each. In order to reach this outcome students must successfully complete, with a merit grade, three advanced literature or culture courses in each of two modern languages (such as Arabic, Bengali, French, German, Italian, Spanish, etc.) or ancient languages (Latin, Greek), at the 200 and 300 level of the curriculum.

We recommend (but do not require) that majors study abroad during one or two semesters of the junior year, and that students with a possible interest in graduate school begin to study a third language before they graduate.

Students analyze, interpret or translate the literary texts of two distinct national cultures and analyze these comparatively, across national and/or linguistic boundaries, or address, consider, evaluate, and apply specific methodological or theoretical paradigms.

Several, if not all, of these goals are common to the required dedicated courses in Comparative Literature—COML 200 (Introduction to Comparative Literature), COML 398 (Theories and Methods of Comparative Literature), and COML 399 (Senior Seminar)—and the three required elective courses, one of which must be a designated “theory” course.

**Senior Project Assessment**

Faculty in the Comparative Literature Steering Committee (CLSC) evaluate the viability of the thesis prospectus, submitted in COML 399. Student performance evaluations in all the assessment categories mentioned below inform the final grades awarded in COML 399 as well as the awarding of honors in the major and departmental prize for the most accomplished senior essay. The examiners are drawn from faculty members teaching COML 399, members of the CLSC, and other colleagues in other relevant disciplines. Examiners (three per student) participate in the required senior oral examination and make the final evaluations of the second semester senior capstone experience. Separate grades are given for the senior essay, seminar performance, and oral exam; the final grade in COML 399 reflects the totality of the senior experience in all categories stated.

Completion of these requirements enables student mastery of analytical skills. The best work in the major will exhibit the skill sets listed below.

Analytical and interpretative skills necessary to complete senior thesis projects and the senior oral exam. Students display the following:

- Independence and creativity in defining a senior thesis project.
- The capacity to evaluate and discuss the merits of a critical or methodological approach.
- Identification of relevant and generative theoretical frameworks, understand the tradition from which they derive, and competently incorporate them in the service of a critical question.
- The critique and evaluation of scholarship relevant to their own scholarly project.
- Completion of an independent scholarly project in the form of a senior thesis (35-40 pages) that has a logical and clear overall structure and that expresses complex ideas and argues these convincingly, with clarity and precision.
- Make an original contribution to an intellectual conversation or scholarly debate through synthesis, application, critique, and/or revision of theory.
- Comment on or critique the research projects of fellow senior seminar participants.
- Bring together and analyze critically, in light of certain central issues and themes, a selection of works of literature and criticism read over the past four years.
Library skills required for completion of senior thesis projects:

- **Critical interrogation of sources**
  Students possess a critical understanding of resources, search environments, and search strategies and can employ that knowledge effectively and efficiently in the service of extended research projects.

- **Responsible Use of Sources**
  Students effectively, responsibly, and fairly participate as junior scholars in both a local and global academic community. Their critical awareness of the ways in which scholarship is created, disseminated, and used informs the production of their own scholarship in terms of handling sources, understanding fair use, and providing access to their finished products.

- **Research Questions**
  Students generate critical research questions in consultation with their instructors and advisers in COML 398 and 399, including guidance from the languages and literatures librarian. They also avail themselves of relevant primary and secondary resources at their disposal. As they gather more primary materials and analysis, they rethink their question(s) and conclusions and revise accordingly.

- **Language Competency**
  Students understand how to search for information in both English and in at least one other language, continuing to develop their language competency with primary and reference materials.

- **Primary Sources**
  Students effectively use both analog and digital sources and can recognize the advantages and limitations of each. They understand the protocols of special collections libraries and archives in the U.S. and other countries to which they may travel. They identify relevant primary sources and understand their context, effectively incorporating them into their research projects.

- **Secondary Sources**
  Students are adept at using subject-specific databases and indices on line and in print and can locate and use an expanding range of resources not limited to the Open Web or local library materials.

**REQUIREMENTS FOR HONORS**

Students who, in the judgment of the Comparative Literature Steering Committee, have done distinguished work in their comparative literature courses and in the Senior Seminar will be considered for departmental honors.

**STUDY ABROAD**

The majority of our majors study abroad for one semester or two, normally during the junior year, at programs approved by Bryn Mawr and Haverford. Courses taken in these programs can, with the approval of the chair, be counted towards the major; we seek the advice of the chairs of the language departments in determining the kind of credit given for particular courses (e.g., in deciding whether a language course should be counted as a 200-level course or a 300-level course). We also ask our students to confer with the chair of the relevant language department in advance when choosing courses abroad.

**FACULTY**

Two co-chairs, one at each college, and a Bi-College steering committee administer the program. The committee generally includes those faculty members most often involved in teaching the introductory course and the senior seminar.

At Haverford:

**Israel Burshatin**
Chair and Barbara Riley Levin Professor of Comparative Literature and Professor of Spanish

**Imke Brust**
Assistant Professor of German

**Roberto Castillo Sandoval**
Associate Professor of Spanish

**Maud McInerney**
Associate Professor of English

**Jerry Miller**
Associate Professor of Philosophy

**Deborah Roberts**
William E. Kenan, Jr. Professor of Classics and Comparative Literature

**Ulrich Schönherr**
Professor of German

**David Sedley**
Associate Professor of French

At Bryn Mawr:

**Azade Seyhan**
Fairbanks Professor in the Humanities and Professor of German and Comparative Literature
COMPARATIVE LITERATURE

María Cristina Quintero
Professor of Spanish

Martin Gaspar
Assistant Professor of Spanish

Tim Harte
Associate Professor of Russian

Shiamin Kwa
Assistant Professor on the Jue Chu Lectureship in Chinese Studies

Roberta Ricci
Associate Professor of Italian

Jennifer Harford Vargas
Assistant Professor of English

COURSES

COMLH200 INTRODUCTION TO COMPARATIVE LITERATURE
Israel Burshatin, Robert Germany
This course introduces selected critical concepts and issues in the practice of comparative literature that are also relevant to the texts studied in this class. Among the topics covered are the "republic of letters" and its relation to national and transnational cultural formations; visuality and literary montage; memory and trauma; translation across languages, cultures, and media; narrative and photography; writing and exile; life writing and queer subjectivity; "écriture féminine"; history, literature, and the subaltern subject; biopolitics and the novel; queer affect and transnational migration; critiques of European modernism and modernity from the periphery? Humanities (HU)

COMLH203 WRITING THE JEWISH TRAJECTORIES IN LATIN AMERICA
Ariana Huberman
Jewish Gauchos, “Tropical Synagogues,” “Poncho and Talmud,” “Matza and Mate.” This course will examine the native and diasporic worlds described in the apparent dichotomies that come together in the Latin American Jewish Literature. The class will trace the different trajectories of time, space and gender of the Jewish experience in Latin America, where issues of migration, memory and hybridization come to life through poetry, narrative and drama. Crosslisted: Spanish; Prerequisite(s): Spanish 102, placement, or consent; Humanities (HU)

COMLH205 STUDIES IN THE SPANISH AMERICAN NOVEL
Graciela Michelotti
Investigating the Past in Latin American Contemporary Narratives is an examination of issues of memory and identity in the context of personal and national stories/histories. The course will analyze recently published novels, and short stories (including some film adaptations) by representative writers from the region. Course is taught in Spanish. Crosslisted: Spanish; Prerequisite(s): SPAN 102, placement, or consent of the instructor; Humanities (HU)

COMLH209 CLASSICAL MYTHOLOGY
Staff
An introduction to the primary characters and stories of Greek and Roman mythology including cosmic creation, Olympian and other deities, and heroes both as they appear in Greek and Roman literature and art and as they are later represented in modern art, music, and film. Crosslisted: Classical Studies; Humanities (HU)

COMLH210 SPANISH AND SPANISH AMERICAN FILM STUDIES
Graciela Michelotti, Moira Alvarez
Exploration of films in Spanish from both sides of the Atlantic. The course will discuss approximately one movie per class, from a variety of classic and more recent directors such as Luis Buñuel, Carlos Saura, Pedro Almodóvar, Lucrecia Martel among others. The class will focus on the cinematic discourse as well as the cultural and historic background of each film. The course will also provide advanced language training with particular emphasis in refining oral and writing skills. Prerequisite(s): SPAN 102, or placement, or consent of instructor; Crosslisted: SPAN; Humanities (HU)

COMLH214 WRITING THE NATION: 19TH-CENTURY LITERATURE IN LATIN AMERICA
Ariana Huberman
An examination of seminal literary texts written in Latin America in the nineteenth century. Novels, essays, travelogues, short stories, miscellaneous texts, and poetry will be analyzed and placed in the context of the process of nation-building that took place after Independence from Spain. A goal of the course will be to establish and define the nexus between the textual and ideological formations of 19th-century writings in Latin America and their
counterparts in the 20th-century. Prerequisite(s): SPAN 102, placement, or consent of instructor; Crosslisted: SPAN; Humanities (HU)

COMLH227 RACE AND ETHNICITY IN THE CLASSICAL WORLD
Staff
This course investigates ancient thinking about race and ethnicity, as represented in the literature of the ancient Mediterranean through such authors as Homer, Herodotus, Aeschylus, Aristotle, Vergil, Caesar, and Tacitus. Crosslisted: Classics; Humanities (HU)

COMLH233 TOPICS IN CARIBBEAN LITERATURE
Asali Solomon
This course will focus on authors of the Caribbean and its diaspora, engaging fiction, theory, memoir, poetry and drama from the mid-twentieth century through the present. Core themes will include migration, class, colonialism, racial identity, gender and sexuality. Crosslisted: English, Africana Studies; Humanities (HU)

COMLH237 LIVING WITH THE DEAD: ATTITUDES TOWARDS DEATH IN MEDIEVAL BRITAIN
Kristen Mills
An examination of changing attitudes towards death in medieval Britain, through entwined discourses about burial, the dead, and the afterlife. Topics include burial practices, the location of graves, saints' bodies, the doctrine of purgatory, and tales of the restless dead. Crosslisted: English; Humanities (HU)

COMLH242 INTRODUCTION TO VISUAL STUDIES
Christina Knight
An introduction to the trans-disciplinary field of Visual Studies, its methods of analysis and topical concerns. Traditional media and artifacts of art history and film theory, and also an examination of the ubiquity of images of all kinds, their systems of transmission, their points of consumption, and the very limits of visuality itself. Humanities (HU)

COMLH250 QUIXOTIC NARRATIVES
Israel Burshatin
Study of Cervantes, Don Quixote and of some of the works of fiction, criticism, philosophy, music, art and film which have drawn from Cervantes's novel or address its formal and thematic concerns, including self-reflexivity, nation and narration, and constructions of gender, class, and "race": in narrative. Other authors read include Borges, Foucault, Laurence Sterne, Graham Green, Vladimir Nabokov, and Kathy Acker. Course taught in English. This course fulfills the "pre 1898" requirement. Crosslisted: SPAN; Humanities (HU)

COMLH255 CINÉMA FRANÇAIS/FRANCOPHONE ET COLONIALISME
Koffi Anyinefa
A study of cinéastes from Black Africa, Arab North Africa and the Caribbean whose films treat the colonial and postcolonial experience. Crosslisted: French and Francophone Studies; Humanities (HU)

COMLH262 POST-WALL GERMAN FILM
Imke Brust
This course provides a brief introduction to film studies and explores in particular post-wall German film. We will investigate how the selected films represent ideas of the nation visually, and how they aim to create or deconstruct certain myths of the German nation. Furthermore, this course will scrutinize in what ways the films depict issues of gender and race as part of the German national narrative struggle. In conclusion, we will focus on the role of memory within the national consciousness, and how certain post-wall German films fit within the heated discussion about a normalization of German history, which the reunification entailed. (Taught in English with an extra session in German). Crosslisted: GERM; Humanities (HU)

COMLH266 IBERIAN ORIENTALISM AND THE NATION
Israel Burshatin
This course examines cultural production in the frontier cultures of medieval Iberia against a background of collaboration and violence among Islamic, Christian, and Jewish communities, and the subsequent transformations wrought by the rise and decline of imperial Spain. Topics to be examined include the myth of Christian reconquista / Reconquest; the construction of Spanishness as race and nation in the context of Christian hegemony and global empire; depiction of Moors in narrative, material culture, and the discourses of gender and sexuality; internal colonialism and Morisco resistance; perceptions of Spain as exotic or abject other in the Northern European and US
imaginary; contemporary African migrations and the “return of the repressed.” This class is conducted in English. Humanities (HU)

**COMLH290 HISTORY OF LITERARY THEORY: PLATO TO SHELLEY**  
*Deborah Roberts*

In this course we investigate central texts in literary theory from the Greeks to early nineteenth-century Europe, with attention to key critical terms and concepts. Topics of discussion include the nature and origin of literary creation, socio-political ideas about the function of poetry and the poet, mimetic models of literature, the roles of art and nature, literature in relation to its audience, theories of genre, defenses of poetry, allegorical interpretation, the idea of the sublime, definitions of the imagination, poetic language, and the application of critical theory to particular texts. Readings include selections from: Plato, Aristotle, Horace, Longinus, Dante, Augustine, Sidney, Corneille, Dryden, Pope, De Stael, Johnson, Wollstonecraft, Wordsworth, Coleridge, Keats, and Shelley. Requirements include five short papers and a final exam. Not open to first-year students. Humanities (HU)

**COMLH293 TRANSLATION AND OTHER TRANSFORMATIONS: THEORY AND PRACTICE**  
*Deborah Roberts*

An exploration of the theory and practice of translation: from language to language, from culture to culture, and from medium to medium. We will consider different approaches to translation in theoretical writings and in case studies drawn from works in different languages, with attention to changing views and to areas of controversy. Assignments will include both papers and translations, and students may develop translation projects of their own. Prerequisite(s): students must be at least at the intermediate level of one language other than English; Crosslisted: CSTS; Humanities (HU)

**COMLH306 OF MONSTERS AND MARVELS**  
*Staff*

From contemplating the cosmos to encountering the monstrous, this course explores the place of wonder in Islamic traditions through readings from the Qur’an, exegesis, prophetic traditions, popular literature, travel narratives, descriptive geography, philosophy and theology. Social Science (SO)

**COMLH308 MYSTICAL LITERATURES OF ISLAM**  
*Staff*

Overview of the literary expressions of Islamic mysticism through the study of poetry, philosophy, hagiographies, and anecdotes. Topics include: union mystica; symbol and structure; love and the erotic; body/gender; language and experience. Humanities (HU)

**COMLH309 CROSS-CULTURAL LAMENT TRADITIONS**  
*Kristen Mills*

An examination of cross-cultural lament traditions from antiquity to the present, with a focus on medieval and early modern Britain, Ireland, and Scandinavia. Topics include: gender and lament; orality, performance, and literacy; and the societal function of mourning. Prerequisite(s): at least one 200-level course in one of the following: Comparative Literature, English, Classics, any language/literature department, Music, or Anthropology; or consent of the instructor; Crosslisted: ICPR; Humanities (HU)

**COMLH312 ADVANCED TOPICS IN FRENCH LITERATURE: MONTAIGNE, FAITS ET FICTIONS**  
*David Sedley*

This seminar is dedicated to the study of Michel de Montaigne (1533-1592), an author whose importance in French compares to that of Shakespeare in English. Montaigne’s masterpiece, Les Essais, has special relevance today: as its title suggests, it originates an instrument by which we conduct inquiry in the humanities and social sciences as well as a organ of personal and literary expression—the “essay.” We will explore the meanings of those inventions, in addition to patterns of thought that Montaigne’s essays absorb, reform, and transmit to modern culture, in particular a cluster of diverse but interrelated distinctions between woman and man, words and things, life and death, self and other, war and civility, and fiction and fact. In French. Crosslisted: FREN; Humanities (HU)

**COMLH312 PASCAL ENTRE LES DISCIPLINES**  
*David Sedley*

Contrary to what one may think, the notion of “interdisciplinarity” has a long history. In this history, the career of Blaise Pascal represents a high point. This course examines the achievements of
Pascal as mathematician, physicist, engineer, entrepreneur, theologian, philosopher, and literary genius through his works as well as criticism, theory, and film. This examination will illuminate why transgressing frontiers between disciplines matters so much—and why it has become so difficult to do. Taught In French. Humanities (HU)

COMLH320 SCIENCE AS FICTION
Imke Brust
Taught in English. How does scientific knowledge inform and influence literature? How do scientific texts make use of literary strategies and rhetorical devices in order to produce and disseminate new knowledge? Bringing together primary texts from the history of science with key literary works from Goethe to cyberpunk, this seminar will introduce students to the interdisciplinary study of relations between science and literature. Despite disciplinary divisions, literature and the sciences converge strikingly in terms of their shared objects of inquiry, theoretical assumptions, and representational strategies. We will investigate how foundational concepts in the fields of chemistry, biology, physics, psychology, and cybernetics have profoundly shaped modern fiction. While taking seriously scientific claims of truth and objectivity, we will also discuss how scientists have historically drawn on the resource of fiction as a form of knowing and communicating. Primary texts will include works by Goethe, Mary Shelley, Poe, Mesmer, Darwin, Zola, Bram Stoker, Ernst Mach, Musil, Kafka, Einstein, Calvino, Norbert Wiener, Pynchon, and William Gibson. Crosslisted: German; Humanities (HU)

COMLH321 GERMAN COLONIALISM AND WORLD WAR I
Imke Brust
This course will provide a historical overview of German colonial history in Africa, and critically engage with its origins, processes, and outcomes. We will first scrutinize colonial efforts by individual German states before the first unification of Germany in 1871, and then investigate the colonialism of Imperial Germany. In particular, we will focus on the time after the 1884/1885 Berlin Conference that sought to regulate the so-called “Scramble for Africa” and explore how the First World War was related to Germany’s colonial ambitions. Moreover, we will engage with the parallel development of the German national and colonial project and the Social Darwinist thinking that influenced and contributed to the racialization of German national identity. Crosslisted: German; Humanities (HU)

COMLH322 POLITICS OF MEMORY IN LATIN AMERICA
Aurelia Gómez Unamuno
This course explores the issue of memory, the narration of political violence and the tension between truth and fiction. A selection of documents, visual archives and documentary films are compared with literary genres including testimonies memories, diaries, poetry, and fiction writing. This course also compares the coup and dictatorship of Pinochet, with the repression of the student movement of 68, and the guerrilla warfare in Mexico. Crosslisted: SPAN; Humanities (HU)

COMLH328 PROBLEMATICS OF SPACE IN CONTEMPORARY SPANISH AMERICAN NARRATIVE
Moira Alvarez
An examination of the concept of space as a social practice and its articulations in a variety of novels and films by contemporary Latin American authors. Readings by Foucault, Harvey, Soja, and Lefebvre are the theoretical framework for analyzing the corpus. Crosslisted: Spanish; Prerequisite(s): 200-level course or consent of instructor; Humanities (HU)

COMLH334 GENDER DISSIDENCE IN HISPANIC WRITING
Israel Burshatin
Study of the dissenting voices of gender and sexuality in Spain and Spanish America and US Latino/a writers. Interrogation of “masculine” and “feminine” cultural constructions and “compulsory heterosexuality,” as well as exemplary moments of dissent. Texts to be studied include Hispano-Arabic poetry, Fernando de Rojas's Celestina; Tirso de Molina, Don Gil de las calzas verdes; Teresa of Avila, Gloria Anzaldúa, and Reinaldo Arenas. Prerequisite(s): a 200-level course or consent of the instructor; Humanities (HU)

COMLH351 WRITING AND SOCIAL CONSTRUCTION OF SUBJECTIVITY
Zolani Ngwane
This course is an interdisciplinary exploration of writing as a social institution, personal ritual, cultural artifact and a technology. Beginning with some debates in the social sciences concerning the place of literacy in individual cognitive development and social progress, we will proceed to
explore some core assumptions about speech and writing in western thought from Plato to recent French feminist theory. The goal of this course is to offer students a genealogical account of anthropological ways of thinking about the human being as a creative agent and a social subject. Social Science (SO)

COMLH398 THEORIES AND METHODS IN COMPARATIVE LITERATURE
Israel Burshatin, Ulrich Schoenherr
Advanced work in the history and problems of comparative literature. Humanities (HU)

COMLH399 SENIOR SEMINAR
Deborah Roberts, Maria Cristina Quintero
Oral and written presentations of work in progress, culminating in a senior thesis and comprehensive oral examination. Humanities (HU)

COURSES OFFERED AT BRYN MAWR

COMLB225001 CENSORSHIP
COMLB403001 SUPERVISED WORK
CSTSB274001 GREEK TRAGEDY IN GLOBAL CINEMA-GREEK TRAGEDY IN CONTEMPORARY FILM
ENGLB345001 TOPICS IN NARRATIVE THEORY-THEORY OF THE ETHNIC NOVEL
ENGLB381001 POST-APARTHEID LITERATURE
FRENB213001 THEORY IN PRACTICE: HUMANITIES-CRITIC APPROACHES TO THE WORLD
GERMB320001 TOPICS IN GERMAN LITERATURE & CULTURE-GERMAN LITERATURE AS WORLD LITERATURE
GERMB321001 ADV TOPICS GERMAN CULTURAL ST-REPRESDIVERSITY IN GERMAN CINEMA
HARTB340001 TOPICS IN BAROQUE ART-DUTCH PAINTING
ITALB211001 PRIMO LEVI, HOLOCAUST & AFTERMATH
ARCHB303001 CLASSICAL BODIES
COMLB200001 INTRODUCTION TO COMPARATIVE LITERATURE
COMLB399001 SENIOR SEMINAR IN COMPARATIVE LITERATURE
ENGLB234001 POSTCOLONIAL LITERATURE IN ENGLISH
ENGLB279001 INTRODUCTION TO AFRICAN LITERATURE
FRENB302001 LE PRINTEMPS DE LA PAROLE FEM
GERMB231001 CULTURAL PROFILES MODERN EXILE
GERMB320001 TOPICS IN GERMAN LITERATURE & CULTURE-BERLIN IN LITERATURE AND FILM
HARTB110001 IDENTIFICATION IN THE CINEMA
HARTB306001 FILM THEORY
ITALB214001 THE MYTH OF VENICE (1800-2000)
RUSSB238001 TOPICS: HISTORY OF CINEMA-SILENT FILM: US-SOVIET RUSSIA
SPANB211001 BORGES Y SUS LECTORES
SPANB311001 CRIMEN Y DETECTIVES NARRA HISP
SPANB317001 LÍRICA DEL SIGLO DE ORO
Computer Science is the representation and manipulation of information; it is the study of the theory, analysis, design, and implementation of the data structures that represent information and the algorithms that transform them. Computer Science is interdisciplinary, with roots in mathematics, physics, and engineering, and with applications in virtually every academic discipline and professional enterprise.

Computer Science at Haverford College emphasizes these fundamental concepts of the field, with emphasis on depth of thought and clarity of expression. This approach is consistent with the principles of scientific education in the liberal arts. Our aim is to provide students with a base of skills and capabilities that support a wide variety of post-graduation goals, rather than to follow short-term fashions and fluctuations in computer hardware and software.

LEARNING GOALS
Specific learning objectives are for each student to:

• **Realize their full ability to think deeply.** This involves mastering discipline-specific concepts such as abstraction, correctness, and complexity, and recognizing their broad and deep applications, both theoretically and practically, in new contexts.
  o Identify the role of abstraction in a computational problem situation; for example, distinguish a general problem from an specific instance, or understand the mapping between an abstract data type (ADT) and a given representation of that ADT.
  o Develop original, correct solutions demonstrating an appropriate level of abstraction, using two or more design techniques specific to the field.
  o Express a general solution in an appropriate programming language.
  o Analyze and compare the efficiency of alternative solutions, both quantitatively and qualitatively.
  o Increase confidence in a solution through a variety of approaches, including code review, testing, and mathematical reasoning.

• **Communicate his or her thinking clearly and effectively.** This involves taking a discovered or developed solution (or a given problem definition, etc.) and sharing that solution with peers, managers, clients, and other professionals, in a complete and persuasive manner, and with appropriate use of vocabulary and other tools (e.g., charts, proofs, demonstrations).

• **Identify, interpret and evaluate the theoretical, practical, and ethical implications of his or her work in the field.** This work is most easily identified as software, but other results might be papers written and published, projects chosen over others ignored, and even questions raised.

CURRICULUM
Computer science offers:

• a major.
• a concentration for mathematics majors.
• a minor.

Computer Science also contributes substantially to the Concentration in Scientific Computing. More information on this concentration can be found on the program’s website (haverford.edu/scientific-computing) or catalog entry.

Major
The major in computer science is designed for students who wish to explore fundamental questions about computation itself and the role of computation in society. As part of this exploration, we provide many opportunities for students to design, implement, and analyze algorithms and data structures, and develop a larger-scale hardware/software system over the course of multiple semesters. These opportunities include both individual projects and group work, and provide experience with a variety of programming languages and with computer hardware. The senior experience, and the final projects in many classes, provide opportunities for students to explore their own interests.

MAJOR REQUIREMENTS
The major program covers the foundations of the discipline and provides a range of elective opportunities. While the computer science major is inspired by guidance from existing professional societies in computing, it is uniquely
**COMPUTER SCIENCE**

“Haverfordian” in its emphasis on a collaborative approach to a rigorous field of inquiry.

Requirements are:
- CMSC 105 (Introduction to Computer Science), or CMSC 107, or Bryn Mawr CMSC 110.
- CMSC 106 (Introduction to Data Structures), or CMSC 107, or Bryn Mawr CMSC 206.
- CMSC/MATH 231 (Discrete Mathematics) (Students with strong backgrounds in mathematics and prior knowledge of the topics covered in CMSC/MATH 231 may wish to seek instructor permission to place into CMSC 340 / 345 without prior completion of 231—in this case, the student may complete the requirements for the major with another course covering discrete mathematics, from the following list: MATH 210B (Linear Optimization), MATH 394 (Logic), MATH 394 (Cryptography), MATH 395 (Combinatorics), or STAT 203, 218, 286, or 396).
- CMSC 240 (Principles of Computer Organization).
- CMSC 245 (Principles of Programming Languages).
- CMSC 340 (Analysis of Algorithms).
- CMSC 345 (Theory of Computation).
- CMSC 350 (Compiler Design) or 355 (Operating Systems) or 356 (Concurrency and Co-Design in Operating Systems).
- One additional 300-level course in computer science, and two additional courses numbered 200 or higher (one may be a related course in math or physics); Computer Science Independent Study courses can be counted if the student has received permission in advance to do so.
- CMSC 399 Senior Thesis and Seminar.

**MINOR REQUIREMENTS**

- CMSC 105 (Introduction to Computer Science), or CMSC 107, or Bryn Mawr CMSC 110.
- CMSC 106 (Introduction to Data Structures), or CMSC 107, or Bryn Mawr CMSC 206.
- CMSC/MATH 231 (Discrete Mathematics) (Students with strong backgrounds in mathematics and prior knowledge of the topics covered in CMSC/MATH 231 may wish to seek instructor permission to place into CMSC 340 / 345 without prior completion of 231—in this case, the student may complete the requirements for the minor with another course covering discrete mathematics, from the following list: MATH 210B (Linear Optimization), MATH 394 (Logic), MATH 394 (Cryptography), MATH 395 (Combinatorics), or STAT 203, 218, 286, or 396).

**CONCENTRATION REQUIREMENTS**

The Computer Science Department supports the Concentration in Scientific Computing, available to a variety of majors, and provides a computer science concentration specific to mathematics majors.

**Computer Science Concentration for Mathematics Majors Requirements**

- CMSC 105 (Introduction to Computer Science) and 106 (Introduction to Data Structures), or CMSC 107.
- Either CMSC 240 (Principles of Computer Organization) or CMSC 245 (Principles of Programming Languages).
- Either CMSC 340 (Analysis of Algorithms) or CMSC 345 (Theory of Computation).
- One cross-listed MATH/CMSC course (Note that MATH/CMSC 231 meets this requirement and is the prerequisite for CMSC 340 and 345.)
- One additional 300-level computer science course.

**SENIOR PROJECT**

The senior thesis in computer science is a year-long research experience under the guidance of a faculty member that culminates in a written paper and an oral presentation. The research experience can include original work, but it must demonstrate original exposition and thinking, always including a thorough literature review.

To ensure that students successfully complete this graduation requirement, they are required to enroll in a year-long one credit senior seminar course in the department, CMSC 399. In this course, there
COMPUTER SCIENCE

are a series of class activities and deadlines to help keep students on track for completing their senior thesis. In the fall semester, these include: the adviser selection process; submitting the topic proposal; completing the literature review; the public poster presentation; and the chapter one thesis draft. In the spring semester, these include: completing a rough draft of their thesis; rehearsing their oral presentations; submitting the final thesis document; and giving their oral presentation. In between the two semesters, a second reader provides feedback to the student and their adviser as to whether the progress is satisfactory.

A detailed schedule is provided to all students in the seminar at the beginning of the year.

Senior Project Learning Goals
The thesis work culminates in the writing and oral presentation of a paper. The student must also demonstrate the research skills required to produce this paper, in accordance with departmental deadlines.

An undergraduate senior paper may or may not include original research, but must present an in-depth exploration of a topic in computer science (with particular focus on understanding and evaluating some element of the computer science literature). The paper should demonstrate the student’s ability to apply, in a new context, the fundamental themes and objectives that connect all CMSC classes, such as:

• separating a problem definition from its solution.
• describing clearly a proposed solution (typically with examples).
• understanding the correctness and applicability of a proposed solution.
• comparing several proposed solutions in terms of clarity, resource requirements, etc.

It is common for the thesis to center on a particular algorithm or computing system, and present the correctness and/or computational complexity thereof. However, this is not required. Students have successfully pursued other topics, such as human-computer interaction. The one core requirement is that the student demonstrates the ability to think deeply and communicate clearly about a computer science topic beyond the depth covered in classes.

The written thesis often resembles a review article, which explores in depth a collection of primary source articles from a single research group, or a survey article, which compares primary source articles from different origins.

The oral presentation is given after the thesis has been completed, though preliminary presentations are often also given as practice (and for formative assessment) during the year. The presentation is not graded, although all students are required to give one.

The learning goals for the research that goes into all of this are as follows:

Aspirational (for the best students):
A substantial written contribution that demonstrates original thinking/insight about a research area inside computer science, under the supervision of a faculty member. This should include a full literature review, appropriate replication of existing work, and either:
• a clear hypothesis (model), validation (proof/experiments), and analysis; OR
• original expository work, including the extension of a proof, or a new proof of an existing theorem.
• Since such theses include original material, they may constitute part of a publication (typically a joint publication with the adviser). However, publication is not required.

Achievable (for most students):
A confirmation and reiteration of existing work with an incremental contribution. Specifically, this includes a full literature review and either:
• a good and complete confirmation of an existing experiment on new data, including a good analysis; OR
• an exposition of non-trivial graduate-level published work, including an existing proof or deep explanation of its extension/applicability (or its lack of extension) to other related concepts.

Required (of all students):
A non-trivial literature review/exposition of existing graduate-level published work, specifically:

The introductory material must be:
• readable by someone who has understood only the core CMSC undergrad material (e.g. programming languages, hardware,
theory, algorithms, and at least one intensive systems course such as compilers or O.S.).

- detailed enough to be clear to someone within the field.

The discussion of related work should:

- include all the important related/foundational work.
- clearly identify what problem is being addressed by each work (possibly one statement of this for many/all the works).
- clearly state the basic approach being taken.
- explain how each paper supports/evaluates its own results (proof/empirical-study/ad-hoc argument).
- make clear how this work relates to the thesis itself.
- in at least one case, really address the nuts and bolts of how the approach works (possibly several such discussions will be needed to address the point above).

**Senior Project Assessment**

The grade is approximately 75% based on the work done under the supervision of the faculty adviser and about 25% based on meeting the deadlines of and participating in the senior seminar, including the fall poster and spring presentation.

The senior paper is primarily assessed by the student’s adviser. Usually one or more other members of the department also read the paper and provide feedback for the student and adviser; if the student has a separate subject-matter adviser at another institution, that adviser is consulted during the grading of the paper if at all possible. All faculty (and many students) are typically in attendance for the oral presentation.

The grade for the senior experience is assigned by the adviser, based on the quality of the student’s written paper (judged in terms of illustrating mastery of the learning objectives relevant to the chosen topic), on participation in the oral presentation, and on the work habits illustrated during the year’s work.

After thorough discussion by the department, a student’s grade on the thesis will reflect how closely they have met the qualitative goals stated above. Specifically:

- **4.0**: meets aspirational goals stated above.
- **3.0**: meets achievable goals stated above.
- **2.0**: meets required goals stated above.

All students should reach at least a 2.0 level of work on the material they submit by the end of the fall semester, and the faculty will certify students as having achieved this level (or not) in January.

In addition to submitting the written thesis document, students must also complete the assigned presentation elements, which typically include a December poster presentation of the thesis topic and scope, and the final oral presentation of the thesis. These presentations are graded on evidence of preparation and on participation (i.e. showing up on time for one’s own presentation, attending the rehearsals of a few others, and providing feedback and/or asking questions). Faculty will provide informal feedback to the presenters on speaking style, professionalism, diction/grammar, poise, etc., but these elements are not included in the grade.

**RELATED CONCENTRATION**

**Concentration in Scientific Computing**

Computation is the object of study for the computer science major and minor; computation is also an important tool with which to study many other disciplines. The Concentration in Scientific Computing focuses on the uses of computational techniques in other natural and social sciences.

For more information about the Concentration and its requirements, please see the program’s website (haverford.edu/scientific-computing) or catalog entry.

**AFFILIATED PROGRAM**

**Engineering**

Computer Science majors may pursue various engineering disciplines via our partnerships with the University of Pennsylvania and CalTech. More information on this partnership can be found on the departmental website.

**FACILITIES**

See the departmental web page for a description of laboratories, equipment and other special facilities for this program.
COMPUTER SCIENCE

FACULTY
At Haverford:
Steven Lindell
Professor

John P. Dougherty
Associate Professor

David G. Wonnacott
Associate Professor

Sorelle A. Friedler
Assistant Professor

Jane Chandlee
Visiting Assistant Professor

Suzanne Lindell
Laboratory Instructor

Affiliated Faculty:
Lynne Butler
Professor of Mathematics

Curtis Greene
J. McLain King Professor of Mathematics

Robert Manning
William H. and Johanna A. Harris Distinguished Professor of Computational Science

Philip M. Meneely
Professor of Biology

Walter Smith
Professor of Physics

At Bryn Mawr College:
Deepak Kumar
Professor

Dianna Xu
Professor

Douglas Blank
Associate Professor

Richard Eisenberg
Assistant Professor

COURSES

CMSCH104 TOPICS IN INTRODUCTORY PROGRAMMING
John Dougherty, Sorelle Friedler

A general introduction to computer programming, in the context of its application to a specific discipline such as Data Analysis or Bioinformatics. Prerequisite for CMSC 107, along with with discipline-specific analysis. Not for students who have completed CMSC 105 and/or 107. Quantitative (QU); Natural Science (NA)

CMSCH105 INTRODUCTION TO COMPUTER SCIENCE
Staff
Introduction to the intellectual and software tools used to create and study algorithms: formal and informal problem specification; problem solving and algorithm design techniques; reliability, proofs, and testing techniques; program clarity, complexity and efficiency; functional and imperative paradigms; associated programming skills. Weekly programming laboratory section. Quantitative (QU); Natural Science (NA)

CMSCH106 INTRODUCTION TO DATA STRUCTURES
John Dougherty
An introduction to the fundamental data structures of computer science: strings, lists, stacks, queues, trees, BSTs, graphs, sets and their accompanying algorithms. Principles of algorithmic analysis and object reasoning and design will be introduced using mathematical techniques for the notions of both complexity and correctness. Some more practical issues, such as memory management and hashing, will also be covered. The programming language used to illustrate and implement these concepts will be Python, and emphasis will be placed on recursive thinking and its connection to iteration. Labs will be sectioned by course professor. Prerequisite(s): CMSC 105 (or 110 at Bryn Mawr) or consent. Students must attend one, one-hour lab per week. Quantitative (QU); Natural Science (NA)

CMSCH107 INTRODUCTION TO COMPUTER SCIENCE AND DATA STRUCTURES
David Wonnacott
An accelerated treatment of CMSC 105/106 for students with significant programming experience. Reviews programming paradigms, while focusing on techniques for reasoning about about software: methodical testing, formal verification, code reviews, other topics as time permits. Includes lab work. Fulfills CCNC concentration requirement. Prerequisite(s): placement by CMSC faculty, based
on CMSC placement test. If you are interested in CMSC 107, you should preregister for the CMSC 105 section at the same time, take the placement test by the deadline (typically Wednesday before classes start). Quantitative (QU)

**CMSCH207 DATA SCIENCE AND VISUALIZATION**  
*Sorelle Friedler*  
An introduction to techniques for the automated and human-assisted analysis of data sets. These “big data” techniques are applied to data sets from multiple disciplines and include cluster, network, and other analytical methods paired with appropriate visualizations. Prerequisite(s): (CMSC 105 and CMSC 106) or CMSC 107 and CMSC 231 or permission of the instructor; Natural Science (NA)

**CMSCH208 SPEECH SYNTHESIS AND RECOGNITION**  
*Jane Chandlee*  
An introduction to the methodologies used in the automated recognition and synthesis of human speech, focusing on Hidden Markov Models in recognition and unit selection in synthesis. Students will get hands-on experience with implementing the various components of these systems. Prerequisite(s): CMSC 105 and 106 OR CMSC 107 OR BMC 110 and 206 OR instructor permission; Natural Science (NA)

**CMSCH231 DISCRETE MATHEMATICS**  
*Steven Lindell, Jane Chandlee*  
An introduction to discrete mathematics with strong applications to computer science. Topics include set theory, functions and relations, propositional logic, proof techniques, difference equations, graphs, and trees. Corequisite(s): CMSC 105, 107, or 110; Crosslisted: MATH; Natural Science (NA)

**CMSCH240 PRINCIPLES OF COMPUTER ORGANIZATION**  
*John Dougherty*  
Treatment of the hierarchical design of modern digital computers: boolean logic/algebra; sequential state systems; register machines; instruction sets; memory organization; assembly language programming. Lectures cover the theoretical aspects of system architecture; labs provide implementation experience via a hardware simulator. Prerequisite(s): CMSC 106, 107, or B206 or consent. CMSC/Math 231 strongly recommended. Concurrent enrollment in this and two other CMSC lab courses requires permission of the instructor. Natural Science (NA)

**CMSCH245 PRINCIPLES OF PROGRAMMING LANGUAGES**  
*John Dougherty, David Wonnacott*  
Study of the design and implementation of modern programming languages: lexical and syntactic analysis; scoping mechanisms; run-time environments; implementation of structured, functional, object-oriented, and concurrent programming languages. Lectures cover theoretical foundations of language design and implementation; labs provide opportunities to both use and implement language features. Prerequisite(s): CMSC 106, 107, or B206 or consent. CMSC/MATH 231 strongly recommended. Concurrent enrollment in this and two other CMSC lab courses requires permission of the instructor. Natural Science (NA)

**CMSCH287 HIGH-PERFORMANCE SCIENTIFIC COMPUTING**  
*John Dougherty*  
Introduction to parallel and distributed systems and approaches found in scientific computing, including computational and data intensive applications. Primary lab work on a cluster of Linux workstations with MPI; other architectures and approaches are also covered. Prerequisite(s): CMSC 106 or consent; Natural Science (NA)

**CMSCH300 COMPUTER SCIENCE RESEARCH FOUNDATIONS**  
*Staff*  
An introduction to research skills needed for the field of computer science, designed to prepare students for senior thesis or summer research work. Natural Science (NA)

**CMSCH306 RELATIONAL DATABASE DESIGN AND UTILIZATION**  
*Staff*  
Relational Database Design and Utilization covers the principles of relational database design, including some complex corner cases and solutions to scaling issues with the technology. The course will utilize MySQL as the exemplar relational database type, but will discuss key differences with other implementations. The Django programming framework will be employed both for expediency and as a common practical utility in database design. The course will also include an investigation study on other forms of relational and non-
COMPUTER SCIENCE

relational database types, and a case study on a complex relational database design. Prerequisite(s): CMSC 106 or CMSC 107; Natural Science (NA)

CMSCH340 ANALYSIS OF ALGORITHMS
Sorelle Friedler
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 searching will be studied in detail. Prerequisite(s): CMSC 106 or 107 or B206, and 231; Natural Science (NA)

CMSCH345 THEORY OF COMPUTATION
Steven Lindell
Introduction to the mathematical foundations of computer science: finite state automata, formal languages and grammars, Turing machines, computability, unsolvability, and computational complexity. Attendance required. Prerequisite(s): (CMSC 106 or CMSC 107) and CMSC 231 or consent; Natural Science (NA)

CMSCH350 COMPILER DESIGN
David Wonnacott
An introduction to compiler design, including the tools and software design techniques required for compiler construction. Students construct a working compiler using appropriate tools and techniques in a semester-long laboratory project. Lectures combine practical topics to support lab work with more abstract discussions of software design and advanced compilation techniques. Prerequisite(s): CMSC 245; concurrent enrollment in this and two other CMSC lab courses requires permission of the instructor; Natural Science (NA)

CMSCH356 CONCURRENCE AND CODESIGN IN OPERATING SYSTEMS
David Wonnacott
A practical introduction to the principles of shared-memory concurrent programming and of hardware/software co-design, which together underlie modern operating systems; includes a substantial laboratory component, currently using Java’s high-level concurrency and the HERA architecture. Prerequisite(s): CMSC240; concurrent enrollment in this and two other CMSC lab courses requires permission of the instruction. Natural Science (NA)

CMSCH399 SENIOR THESIS
Staff
Natural Science (NA)

COURSES OFFERED AT Bryn MAWR

CMSCB110 INTRODUCTION TO COMPUTING
CMSCB206 INTRODUCTION TO DATA STRUCTURES
CMSCB231 DISCRETE MATHEMATICS
CMSCB246 PROGRAMMING PARADIGMS
CMSCB355 OPERATING SYSTEMS
CMSCB380 RECENT ADVANCES IN COMPUTER SCIENCE
CMSCB312 COMPUTER GRAPHICS
CMSCB371 COGNITIVE SCIENCE
The intellectual orientation of the Department of East Asian Languages and Cultures (EALC) is toward primary textual and visual sources; we focus on East Asia’s rich cultural traditions as a way to understand its present, through the study of a wide range of literary and historical texts (in translation and in the original), images, film, and scholarly books and articles. We encourage all students interested in this humanistic approach to the study of China, Japan, and East Asia to consider the EALC major.

We also work closely with affiliated faculty in the Bi-Co and Tri-Co community who approach East Asia from the perspective of such social science disciplines as anthropology, economics, political science, sociology, and the growth and structure of cities, as well as with faculty in history, music, religion, and philosophy. We encourage our majors to take advantage of these programs to supplement their EALC coursework. However, students will take most courses in the major within the department itself. We also offer three minor tracks, as described below.

**LEARNING GOALS**
EALC has four learning goals:
- Laying the foundations for proficiency in Japanese or Chinese language and culture.
- Gaining some broad knowledge of the East Asian cultural sphere and its history.
- Learning the basic academic skills of bibliographic research, citation style, and gaining an appreciation for various types of sources and their uses.
- Embarking on and completing a major independent research project that pulls together your past coursework and demonstrates mastery of a particular aspect of East Asian culture.

**CURRICULUM**
**Chinese Program**
The Bi-Co Chinese Program offers five years of instruction in Mandarin Chinese.
- First-year Chinese (CNSE 001–002) is a year-long course. Students must complete both semesters to receive credit.
- We offer Advanced Chinese each semester with a different topic; students can take this as Fourth- or Fifth-year Chinese, with one credit per semester, and repeat the course as long as the topics differ.
- We offer CNSE 007-008 for students with a background in Chinese, based on results of a placement test. Upon completion of this full-year sequence, students move on to Second-year Chinese.

**Japanese Program**
The Bi-Co Japanese Program offers five years of instruction in modern Japanese.
- First-year Japanese (JNSE 001–002), taught at Haverford, meets six hours per week, including drill sections.
- Second through Fourth-year (Advanced) Japanese (JNSE 003–004, JNSE 101–102, and JNSE 201A/B) all meet at Haverford.
- Advanced Japanese takes a different topic each term; students can take it any term as Fourth- or Fifth-year Japanese, with one credit per semester, and repeat the course with different topic headings.
- The first-year and second-year courses in Japanese (JNSE 001–002 and 003–004, respectively) meet five days a week.
- For the first-year courses, students must complete both semesters in order to obtain credit, whereas students earn credit for each semester for the second-year courses and above.

**MAJOR REQUIREMENTS**
**1. Language requirement (2 credits)**
We require EALC majors to demonstrate third-year-level competence in Chinese or Japanese, either by passing a placement assessment or completing the relevant third-year course (CNSE 101–102 or JNSE 101–102). The University of Pennsylvania offers Korean language instruction, but it does not count towards the Bi-Co EALC major language requirement.
II. Three core courses (3 credits)
Beyond demonstrating language competence, EALC majors must take THREE core courses from the following:
- One 100-level course on China from among 110 (Introduction to Chinese Literature), 120 (Individual and Society in China), or 131 (Chinese Civilization); and
- One 100-level course on Japan from among 132 (Japanese Civilization) or a variety of new 100-level courses on Japan (currently being developed); and
- EALC 200 (Methods and Approaches to East Asian Cultures).
  - EALC 200 is required of all EALC majors and minors. We urge majors to take 200 in the spring of their JUNIOR year; minors may take it during their senior year. Majors who plan to be abroad in spring term junior year must take EALC 200 spring term sophomore year.
  - EALC 200 is the designated departmental Writing Intensive course (30 pages of writing), which Bryn Mawr now requires of all departments.

Students must earn a grade of 2.0 or higher in each of these courses to continue in the major and be eligible to write a senior thesis.

III. Three departmental elective courses (3 credits)
Majors must take THREE additional non-language courses offered by core members of the Bi-Co EALC Department.
- When signing up for the major, students should work with the departmental co-chair on their campus to select courses that are intellectually complementary.
- At least one of these courses must be at the 300 level.

Majors cannot satisfy the departmental elective courses by courses outside the department, or by taking courses abroad.

IV. Two non-departmental courses related to East Asia (2 credits)
We require students to take two courses related to East Asia from the wider array of courses offered outside the department and/or from study abroad courses that their adviser has approved.
- At least one of these courses must be at the 300 level.

- Students may not substitute these courses for the three core and three elective courses the EALC faculty offers.

V. The Senior Thesis (1 credit)

MINOR REQUIREMENTS
The EALC Department certifies three minors:
- Chinese language and Japanese language; these two language minors both require six language courses, and students may fulfill them concurrently with the EALC major.
- EALC; requires six courses, all of which students must take from among courses the EALC departmental faculty offers. The mix must include EALC 200 and one 300-level course.

SENIOR PROJECT
Students majoring in EALC are required to take a course in EALC 200 (Theories and Methods in the Study of East Asia), ideally in the spring term of their junior year. This course serves to familiarize majors with our expectations regarding research and writing and criteria for evaluation. Students use the skills acquired in this course in the framing of their senior thesis. A main emphasis of this proseminar is the use of secondary sources to explicate and interpret primary sources, that is, engagement with existing scholarship on a text or artifact to put forward new ideas. Most students should emerge from the seminar in their junior year with a good idea of the sort of topic they will pursue for the senior thesis essay. The main purpose of the thesis is to use a body of secondary literature to situate, analyze, and interpret a primary source or set of primary sources.

The senior thesis is a one-term process that takes place in the fall semester. In EALC 298 (Thesis Seminar), students work closely with an adviser to establish a topic, perform bibliographic research, and write an essay of 30 to 40 pages. Students also present their work in a formal 20-minute talk at the close of the semester. While most majors will have settled on a topic and begun to do some research over the summer, all must commit to a topic approved by their adviser by the second week of the fall term. The order of required work leading up to the final submission of the thesis incremental and builds on itself. The weekly schedule for senior thesis work is available on the departmental website.
EAST ASIAN LANGUAGES AND CULTURES

You will settle on a topic by the end of the second week and will submit various exercises such as a work schedule, a close reading of a piece of the primary source, annotated bibliography, literature survey, and so on.

We meet four times as a group over the course of the semester. Most of the term consists of individually scheduled meetings with the primary adviser. As explained below, the project and research are independent, but these nearly weekly meetings with the thesis adviser are absolutely essential. The seminar culminates in a public presentation of the student’s project; two bound copies and one electronic copy in PDF format are due at the end of the term. Careful planning and conscientious work during this semester are absolutely essential. A project of this scope requires independence, discipline, and steady, consistent effort. The incremental assignments outlined in the weekly schedule for senior thesis are designed to help enforce that discipline, but the student is ultimately responsible for the success of the final thesis.

Senior Project Learning Goals
You will learn how to: frame, research, and write a worthwhile research project centered on a primary source and using an array of secondary sources. This involves surveying literature in the field, discerning an interesting topic, and presenting findings or results in writing and in a brief formal talk.

Four Goals of the EALC Senior Experience:

• Independence
You will devise your own thesis topic and are responsible for researching it. You will receive guidance from your adviser, from the department members leading your seminar, and from librarians. You will construct your own customized bibliographies appropriate to your topic. The research and writing process, while overseen by faculty, is clearly one that is largely independent in nature.

• Connection to the Field
This thesis is your way of joining the scholarly conversation about the text you have chosen. This means reviewing secondary literature in the relevant subfields and engaging it critically. (Examples of these subfields might be areas of such scope as, for instance, “the history of the family in Song China” or “avant-garde art circles in 1960’s Tokyo.”)

• Creative Use of Knowledge and Skills
You will draw on your previous study of East Asian languages (required through the third-year level for all majors), and your coursework in specific areas to choose your topic and research and write your thesis. In part two above, we urge you to join a scholarly conversation, here we ask you to make explicit what you have been able to contribute to that conversation. These contributions often involve the reevaluation of earlier scholarship or the application of the existing theoretical insights of others to new source materials. Your contribution might also include the translation of significant portions of your primary source.

• Sharing the Work
Seniors are required to orally present their work to their fellows and to the department in a panel format based on the academic conference model. In these public presentations, you will take twenty minutes to introduce your topic, your methodological approach, selected aspects of your bibliography, and some of the particulars of your analysis of the text at hand. Each presentation will be very different from the next as it is uniquely your own. You are required to devise a slideshow with text and images to accompany your oral presentation. It is here that we are able to encourage and assess your ability to communicate the substance of your work to peers and mentors in a clear, concise, and engaging fashion. You will prepare both bound and electronic copies of your final draft and may choose to make the work available on the web.

Senior Project Assessment
If all of the incremental tasks in the thesis project are done satisfactorily and submitted on time, the student should expect to reach a baseline grade of 3.0. Assuming that all assignments are successfully completed, thesis grades 3.3 and above will be awarded based on merit, with 3.7 being excellent and 4.0 being outstanding. The incremental assignments are there to guide students through the process of researching and writing a long, complex essay, and not to guarantee that students get an “A.” The grade for the semester will therefore be assessed both for the quality of final thesis and for the student’s ability to meet the deadlines, submitting satisfactory work along the way. Please note that successful completion of all incremental assignments is a minimum requirement for passing the class.
The thesis is the student’s chance to demonstrate the skills acquired in four years of college. We expect to see an original contribution to the discussion of a topic, not a mere reiteration of the opinions and findings of others. Students are expected to demonstrate that they have joined the scholarly conversation on a topic. Among other qualities, we are looking for five basic elements in evaluating the theses:
- Ability to present an articulate and original argument.
- Accuracy in the use of scholarly conventions of citation and documentation.
- Clear and effective writing.
- The critical use of sources.
- Consultation of scholarship in Japanese or Chinese.

In order to assess the student’s performance in the senior thesis project, the three or four faculty members involved in the seminar gather in late December to discuss three aspects of the students’ work: 1) the quality of the thesis as a finished product (this is the foremost criterion for evaluation); 2) the ability of the student throughout the term to submit satisfactory work in a timely fashion while incorporating feedback from the faculty adviser and peer readers; 3) the content and performance of the final oral presentation. The faculty members typically spend between 30 to 40 minutes on each student in these conversations, so it is often extended into two meetings. During the conversations, the faculty members focus on details of the student’s thesis, including but not limited to: clarity of argument, quality of writing, accuracy of citation style, skill in use of secondary sources. (See supplemental materials for a fuller description.)

REQUIREMENTS FOR HONORS
The departmental faculty awards honors on the basis of superior performance in two areas: coursework in major-related courses (including language classes), and the senior thesis. The faculty requires a minimum 3.7 average in major-related coursework to consider a student for honors.

STUDY ABROAD
The EALC Department strongly recommends that majors study abroad to maximize their language proficiency and cultural familiarity. We require formal approval by the study abroad adviser prior to the student’s travel. Without this approval, credit for courses taken abroad may not be accepted by EALC. If study abroad is not practical, students may consider attending certain intensive summer schools that EALC has approved. Students must work out these plans in concert with the department’s study abroad adviser and the student’s dean.

LANGUAGE PLACEMENT TESTS
The two language programs conduct placement tests for first-time students at all levels in the week before classes start in the fall semester.
- To qualify for third-year language courses, students need to finish second-year courses with a score of 3.0 or above in all four areas of training: listening, speaking, reading, and writing.
- In the event that students do not meet the minimum grade at the conclusion of second-year language study, they must consult with the director of the respective language program and work out a summer study plan that may include taking summer courses or studying on their own under supervision.
- Students must take a placement test before starting third-year language study in the fall.

FACULTY
Chinese Language Faculty at Haverford:
Shizhe Huang
C.V. Starr Professor of Asian Studies; Associate Professor of Chinese and Linguistics; Director of the Chinese Language Program

At Bryn Mawr:
Changchun Zhang
Instructor, Associate Director of the Chinese Language Program

Tzu Chiang
Senior Lecturer, Chinese Language Program

Japanese Language Faculty at Haverford:
Tetsuya Sato
Senior Lecturer and Director of the Japanese Language Program

Kimiko Suzuki Benjamin
Instructor, Japanese Language Program

Minako Kobayashi
Japanese Drill Instructor
Faculty in History, Literature, and Culture at Haverford:
Paul Smith
John R. Coleman Professor of Social Sciences, Professor of History and Co-chair of the Department (History of China, East Asia, and the Global Order)

Hank Glassman
Janet and Henry Ritchotte ‘85 Professor of Asian Studies, Associate Professor of East Asian Languages and Cultures (Premodern Japanese History, Culture, Literature; East Asian Religions)

Erin Schoneveld
Assistant Professor of East Asian Languages and Cultures (Japanese Art History, Literature, Visual Culture, and Film)

At Bryn Mawr:
Yonglin Jiang
Associate Professor of East Asian Languages and Cultures and Co-chair of the Department (History of Chinese Law, Environment, and Human Rights)

Shiamin Kwa (on leave 2016-2017)
Assistant Professor of East Asian Languages and Cultures (Chinese Literature, Culture, and Film) on the Jye Chu Lectureship in Chinese Studies

Rebecca Fu
Visiting Assistant Professor of East Asian Languages and Cultures

COURSES AT HAVERFORD
EALCH120 CONFUCIANIZING CHINA: INDIVIDUAL, SOCIETY, AND THE STATE
Paul Smith
A survey of philosophical, literary, legal, and autobiographical sources on Chinese notions of the individual in traditional and modern China. Particular emphasis is placed on identifying how ideal and actual relationships between the individual and society vary across class and gender and over time. Special attention will be paid to the early 20th century, when Western ideas about the individual begin to penetrate Chinese literature and political discourse. Social Science (SO)

EALCH132 JAPANESE CIVILIZATION
Erin Schoneveld, Hank Glassman
A broad chronological survey of Japanese culture and society from the earliest times to the present, with special reference to such topics as belief, family, language, the arts, and sociopolitical organization. Readings include primary sources in English translation and secondary studies. Humanities (HU)

EALCH200 MAJOR SEMINAR: APPROACHES TO THE STUDY OF EAST ASIAN CULTURES
Paul Smith, Hank Glassman
This course introduces current and prospective majors and minors to ways of studying East Asian cultures. It employs readings on East Asian history and culture as a platform for exercises in critical analysis, bibliography, cartography and the formulation of research topics and approaches. It culminates in a substantial research essay. Required of East Asian Languages and Cultures majors and minors, but open to others by permission. The course should usually be taken in the spring semester of the JUNIOR year; if students plan to study abroad in Spring term of Junior year, then they may take the course as a Sophomore. This course satisfies the EALC departmental writing requirement. Prerequisite(s): required of East Asian Languages and Cultures majors and minors; open to History majors and other interested students; Crosslisted: HIST; Social Science (SO)

EALCH201 INTRODUCTION TO BUDDHISM
Hank Glassman
Focusing on the East Asian Buddhist tradition, the course examines Buddhist philosophy, doctrine and practice as textual traditions and as lived religion. Crosslisted: RELG; Humanities (HU)

EALCH219 MODERN AND CONTEMPORARY EAST ASIAN ART AND VISUAL CULTURE
Erin Schoneveld
This course examines the development of modern and contemporary art and visual culture in China, Japan and Korea from the early twentieth century to the present day, with a focus on photography, sculpture, painting, film, propaganda, and performance art. Humanities (HU)
EALCH230 POSTWAR JAPANESE CINEMA
Erin Schoneveld
This course provides an introduction to Japanese cinema from the immediate Postwar period of 1945 to the present day. Focusing on films by influential directors including Ozu Yasujirō, Kurosawa Akira, and Mizoguchi Kenji among others we will consider how Japanese filmmakers use cinema to investigate issues of truth, beauty, identity, and nationhood in an attempt to answer fundamental questions regarding life and death in Japan’s Postwar period. Humanities (HU)

EALCH231 PRE-MODERN JAPANESE LITERATURE
Hank Glassman
Read selected works of Japanese literature from the eleventh century to the seventeenth. All readings are in English translation. Texts to be examined include: The Tale of Genji, The Tale of Heike, waka poetry, medieval miracle tales and satiric works. Humanities (HU)

EALCH233 MODERN JAPANESE FICTION AND POETRY
Staff
An introduction to Japanese literature in the twentieth century. Major poets and prose writers from 1890 to 1960 are examined. All works read in English translation. Humanities (HU)

EALCH247 DEATH AND THE AFTERLIFE IN EAST ASIAN RELIGIONS
Hank Glassman
Engage the rich textual and visual traditions of China, Korea, and Japan to illuminate funerary and memorial practices. Explore the terrain of the next world. Learn about the culturally constructed nature of religious belief and understandings of life and death. Humanities (HU)

EALCH256 ZEN THOUGHT, ZEN CULTURE, ZEN HISTORY
Hank Glassman
What are we talking about when we talk about Zen? This course is an introduction to the intellectual and cultural history of the style of Buddhism known as Zen in Japanese. We will examine the development and expression of this religious movement in China, Korea, Japan and Vietnam. Humanities (HU)

EALCH268 WAR AND MILITARY CULTURE IN CHINA
Paul Smith
This course surveys the role of war and the tension between civil and martial values in Chinese history, the place of China’s military arts and sciences in global history, and literary and biographical representations of China’s experience of war. Pre-requisite(s): sophomore standing or higher; Crosslisted: HIST; Social Science (SO)

EALCH311 JAPANESE AVANT-GARDES
Staff
A seminar on modernist movements across media in twentieth-century Japan. Examines collaborative avant garde groups of artists in both the literary and the visual realm. From experimental poetry of the 1920s to art magazines and manifestos and happenings of the 1960s. Prerequisite(s): sophomore standing or above. Freshmen need permission; Humanities (HU)

EALCH335 JAPANESE MODERNISM ACROSS MEDIA
Erin Schoneveld
This curatorial seminar examines the technological shifts and cultural transformations that have shaped Japanese artistic production and practice from the early 20th-century through the present day. Readings from pre-modern through contemporary sources, film screenings, and museum field trips, will be included. Prerequisite(s): sophomore standing or higher; Humanities (HU)

EALCH347 QUAKERS IN EAST ASIA
Paul Smith
The principal goal of this research seminar is to explore Haverford’s rich Quaker archive as a source of first-hand information about East Asia from the late 19th through the mid-20th century. We will collectively survey the major documentary holdings, supplemented by material in the American Friends Service Committee archives, as a prelude to your individual research projects on aspects of the Friends’ educational, social, medical, and evangelical missions in China and Japan and what they tell us about East-West relations in an era of imperialism and war. Open to History and EALC majors, and others with permission of the instructor. Social Science (SO)
EAST ASIAN LANGUAGES AND CULTURES

EALCH398 SENIOR SEMINAR
Erin Schoneveld, Hank Glassman, Yonglin Jiang
A semester-long research workshop culminating in the writing and presentation of a senior thesis. Required of all majors; open to concentrators and others by permission. Humanities (HU)
Economics consists of a variety of theoretical approaches to understanding human behavior, social interactions, and economic performance, and a set of powerful methodological tools that can be used to test competing theories empirically. The economics curriculum at Haverford offers introductory and upper level courses both in theory and empirical methods, as well as numerous electives on a broad range of economic topics. Students with a wide range of interests—financial markets, the environment, politics and public policy, less-developed countries, income distribution and equity, the law, and international trade, to name just a few—will find much that is useful and stimulating by studying economics. One or two economics courses can be an important part of the liberal education of any college student, and students with a diverse set of interests find the economics major to be an engaging and rewarding course of study.

**LEARNING GOALS**

Students will:

- achieve competency in the building blocks of economic theory.
- learn to think like economists.
- achieve competency in statistics and econometrics.
- communicate as economists.
- develop and execute an original economics research project.

**CURRICULUM**

The introductory courses, ECON 104, 105 or 106, introduce at an elementary level the building blocks of microeconomic theory, the study of the behavior of individuals and firms and how they interact in markets for goods, services, labor, and assets, and macroeconomic theory, the study of the behavior of aggregate economic variables, such as GNP, the inflation rate, the unemployment rate, the interest rate, and the budget deficit, and how they relate at the economy-wide level. These courses provide an overview of economics and a strong foundation for more advanced work in economics.

The intermediate (200-level) courses offer material on many different economic topics. These courses require ECON 104, 105 or 106 as a prerequisite, and are designed to be useful to non-majors as well as minors and majors. They encompass such diverse subjects as environmental economics, microfinance, law and economics, women in the labor market, crises, economic development of China and India, and game theory.

Methods courses, which include ECON 203 (Statistical Methods in Economics) or ECON 204 (Economic Statistics with Calculus) followed by ECON 304 (Introduction to Econometrics), give students the necessary methodological training to understand empirical research described in contemporary economics articles and to conduct their own original research.

Advanced theory courses, ECON 300 (Intermediate Microeconomic Theory) and ECON 302 (Intermediate Macroeconomic Theory), follow up on the introductory theory course but offer more in-depth and mathematical treatments of these theoretical concepts, which are the building blocks for modern economic thought and research.

The advanced (300-level) elective courses involve a more technically sophisticated approach to analyzing a variety of economic issues. These topics courses include such diverse areas as behavioral economics, natural resource economics, international trade, and economics of uncertainty. These advanced topics courses normally require some combination of ECON 203, 300, 302, and 304 as prerequisites, and they are designed primarily for economics minors and majors and those who expect to make use of economics in their professional careers. In most of these courses, a substantial paper is an important part of the requirement.

**MAJOR REQUIREMENTS**

- **MATH 118 or the equivalent of two semesters of college calculus**
  - Majors must complete this requirement by the end of sophomore year.
- **ECON 104, 105 or 106; ECON 203 or 204, and ECON 300, 302, and 304**
  - Majors are advised to take 104, 105 or 106, 203 or 204, and one of the intermediate theory courses by the end of their sophomore year. Majors must complete both intermediate theory courses by the end
of junior year and ECON 304 by the end of fall semester of senior year.

- ECON 396, a year-long two-semester Senior Thesis Research Seminar
  - During the first semester majors participate in a group seminar in which students learn salient research skills, listen to and critique work of guest economics speakers, and develop their own research questions; during the second semester students conduct original and independent economics research under the guidance of an economics faculty member.
- Four other semester courses above the 100 level
  - Two of these electives must be at the 300 level. One 300-level course must be a Junior Research Seminar, a set of courses designed to develop the student’s research skills through exploring topical cutting-edge research and developing proposals for related original research projects.

Other Information About the Major
Students may count most courses in the Bryn Mawr Economics Department toward the Haverford economics minor and major (with the exception of courses at the 100 level, excluding ECON 105). Some courses have different numbering across the campuses, in particular the Haverford courses: ECON 203/304 (Economics 257 at Bryn Mawr), ECON 300 (Economics 200 at Bryn Mawr), and ECON 302 (Economics 202 at Bryn Mawr). The two economics departments plan their course schedules jointly so that they can offer the maximum variety of economics courses across the two campuses. In order to count a course toward the major or minor requirements, the student must earn a grade of 2.0 or higher. Students with strong economics backgrounds may place out of ECON 104/105/106 through a placement test, but they will be required to take an extra elective to complete the major.

Students who plan to apply to graduate programs in public policy or business should take additional math courses through at least MATH 121 (Multivariable Calculus III) and at least one computer science course. Similarly, students who are planning to apply to Ph.D. programs in economics should take mathematics through at least MATH 215 (Linear Algebra) and MATH 317 (Analysis I). Economics majors also have the option to pursue the Concentration in Mathematical Economics, which is described under its own heading in this catalog.

MINOR REQUIREMENTS
- ECON 104, 105 or 106
- ECON 203 or 204
- ECON 300 or 302
- Three other economics courses at the 200 and/or 300 levels.

SENIOR PROJECT
The senior thesis at Haverford College is the culmination of a four-year learning process during which students develop their scholarly interests and become independent thinkers. The year-long, two-semester Senior Research Seminar in Economics imparts skills and techniques essential to students undertaking original independent research projects. The first (fall) semester includes: workshops on research techniques, on thesis writing skills and on data collection and management with Excel and Strata; presentations of working papers by visiting scholars preceded by small group critiques of each paper; and one-on-one work with a faculty member to develop a thesis proposal. The course focuses on acquisition of tools to conduct original research, learning how to engage in scholarly discussions, and learning about critical analysis. By the end of the fall semester, students have developed an original research idea and written a formal proposal for the thesis which they have orally presented to a sub-section of the class. The faculty members overseeing the class must approve the proposal.

Independent work under the guidance of a faculty adviser begins at the end of the first semester and continues throughout the second semester. During the second (spring) semester, students develop their thesis through extensive reading, empirical and/or theoretical analysis of the research question, individual sessions with a faculty adviser, and group discussion. The final thesis is an original economic contribution to the field of knowledge in which the thesis is located. Each student demonstrates a clear mastery of the literature surrounding the research question, an understanding of the theoretical underpinnings of the question, and adequate analysis and discussion of results.
Senior Project Learning Goals
Students will learn to:
• craft a viable economics research question and design a project that will answer it.
• summarize the economic scholarship related to this question while discovering and articulating relationships among texts and contextualizing the research question within the broader literature.
• construct and execute an analytic argument that culminates in well-grounded and testable hypotheses.
• collect, manage, and analyze data to test the hypotheses.
• develop and articulate well-founded conclusions based on the empirical or theoretical evidence.
• write a professional-quality research paper that presents their work and findings.
• present the findings of their research orally using relevant visual aids (graphs, tables, mathematical equations, for example).

Senior Project Assessment
We provide two rubrics for assessment of the economics senior thesis, one for a theoretical thesis and one for the more common empirical thesis. The rubrics, which assess the written thesis, were tested by faculty members in the spring of 2014 with multiple faculty members assessing each thesis, and the rubrics were adapted to deal with any concerns. As the department moves forward, each faculty member will assess the thesis of his or her advisees, providing a rating of each criteria. While the ratings will be related to the final grade that the student receives, the faculty member will have the opportunity to incorporate other facets of the students’ experience to the grading process such as creativity, improvement, perseverance, etc. At the time of grading, the ratings will be submitted to the department’s administrative assistant who will compile the results, using a numerical translation of the ratings (4=excellent; 3=proficient, etc.). Each fall, the department will meet and look over the ratings to determine which categories the students are more or less proficient in and where we have seen improvement or setbacks and to assess the continued relevance of the criteria. The outcome of this meeting will guide changes to the fall senior thesis curriculum and potentially to the economics major curriculum as well as changes to the rubric.

Requirements for Honors
The department invites economics majors whose grade point average in economics courses at Haverford, Bryn Mawr, and Swarthmore at the beginning of the second semester of the senior year is 3.60 or higher to become a candidate for the degree with honors in economics. The faculty awards honors or high honors on the basis of a student’s performance in all economics courses, including those in the second semester of senior year, and in an oral examination by department faculty focused on the student’s senior thesis.

Related Concentration
Concentration in Mathematical Economics
Mathematics and economics are complementary disciplines. Most branches of modern economics use mathematics and statistics extensively, and some important areas of mathematical research have been motivated by economic problems. Economists and mathematicians have made important contributions to each other’s disciplines. Economist Kenneth Arrow, for example, did path-breaking work in the field of mathematical optimization; and in 1994 mathematician John Nash was awarded the Nobel Prize in economics for introducing a theory of equilibrium in non-cooperative games that has become central to contemporary economic theory. Haverford’s Concentration in Mathematical Economics enables students in each of the disciplines not only to gain proficiency in the other, but also to understand the ways in which they are related and complementary.

Degree Partnership Program
4+1 Engineering Program with the University of Pennsylvania
Haverford College and the University of Pennsylvania have formed a partnership that enables qualified Haverford undergraduates to gain early and expedited admission into a Master’s degree offered by Penn Engineering.

Study for four years at Haverford, then one year at Penn, enables the student to receive a Bachelor of Science degree from Haverford and a Master’s in engineering from Penn. Haverford is the first liberal arts college in the world to enter into such an agreement with an Ivy League engineering program.
ECONOMICS

FACULTY
Anne Preston
Chair and Professor

Richard Ball
Associate Professor

Carola Binder
Assistant Professor

Matthew Incatalupo
Visiting Assistant Professor

Saleha Jilani
Assistant Professor

Vladimir Kontorovich
Professor

Tim Lambie-Hanson
Visiting Assistant Professor

Shannon Mudd
MI3 Director and Visiting Professor

David Owens (on leave 2016-17)
Associate Professor

Giri Parameswaran (on leave 2016-17)
Assistant Professor

Steven Smith
Post-Doctoral Fellow in Economics and Environmental Studies

COURSES
ECONH104 INTENSIVE INTRODUCTION TO ECONOMICS
Anne Preston
An intensive introduction to both microeconomic topics—opportunity cost, supply and demand, consumer decision making, the theory of the firm, market structures, and efficiency and market failure—and macroeconomic topics—the determination of GDP, money and interest rates, unemployment and inflation, and fiscal and monetary policy. Designed for students who have not taken economics previously, the course meets 3 1 ½ hour sessions per week and includes labor market applications (minimum wage, income inequality and the returns to college). Enrollment Limit: 25; Social Science (SO)

ECONH105 INTRODUCTION TO ECONOMICS
Staff
An introduction to microeconomic topics—opportunity cost, supply and demand, consumer decision making, the theory of the firm, market structures, and efficiency and market failure—and macroeconomic topics—the determination of GDP, money and interest rates, unemployment and inflation, and fiscal and monetary policy. Because ECON 105 requires graphical and algebraic competency, students are strongly encouraged to take a college-level calculus course either before or concurrently with this course. Social Science (SO)

ECONH106 INTRODUCTION TO ECONOMICS WITH CALCULUS
Staff
An introduction to microeconomic topics—opportunity cost, supply and demand, consumer decision making, the theory of the firm, market structures, and efficiency and market failure—and macroeconomic topics—the determination of GDP, money and interest rates, unemployment and inflation, and fiscal and monetary policy. This section of Intro to Economics is intended to be more mathematical in its treatment of the material than ECON 105. Therefore, prior mathematical knowledge is a prerequisite for this course. Corequisite(s): MATH 118; Quantitative (QU), Social Science (SO)

ECONH203 STATISTICAL METHODS IN ECONOMICS
Matthew Incatalupo
Frequency distributions, probability and sampling theory, simple correlation and multiple regression, and an introduction to econometric terminology and reasoning. Three class hours and two lab hours. Prerequisite(s): ECON 104, 105 or 106; Quantitative (QU), Social Science (SO)

ECONH204 ECONOMIC STATISTICS WITH CALCULUS
Richard Ball, Matthew Incatalupo
An introductory course in statistics aimed primarily at students in economics and other social sciences. The course develops the theoretical groundwork of statistical inference and investigates the application of theoretical principles and methods to real data. Three hours of class plus two hours of lab per week. Prerequisite(s): ECON 104, 105, or 106; MATH 114 or MATH 118 or equivalent background in integral calculus; Quantitative (QU), Social Science (SO)
ECONH206 MICROFINANCE: THEORY, PRACTICE AND CHALLENGES
Shannon Mudd
An exploration of microfinance as an alternative approach to meeting the financial needs of the poor and, ideally, to assist in their current and future well-being. The course will provide theoretical explanations for its methodology, evaluate empirical research into its impacts and debate important issues in its practice. Social Science (SO)

ECONH209 LAW AND ECONOMICS
Vladimir Kontorovich
Why do rational people follow fixed rules (laws) instead of doing what is best for them in a specific situation? Can there be order without law? Should the government compensate people when it issues environmental and wildlife protection regulations which reduce the value of their property? The lady who burned herself with a cup of McDonalds coffee won several million dollars in compensation. Does that make sense? These and many other questions are addressed as we look at property law, contracts, and torts. Prerequisite(s): ECON 104, 105 or 106; Social Science (SO)

ECONH229 NEW INSTITUTIONAL ECONOMICS AND NATURAL RESOURCES
Steven Smith
Using the North American story of resource use, this course applies New Institutional Economics. When allocating scarce resources, institutions (property rights, laws, and norms) serve as constraints, but can evolve as circumstances change. This course addresses the how and why. Prerequisite(s): ECON 104, 105 or 106; ENVS 101; Crosslisted: ENVS; Social Science (SO)

ECONH240 ECONOMIC DEVELOPMENT AND TRANSFORMATION: CHINA VS. INDIA
Saleha Jilani
This is a survey course on the economic development and recent transitional experience in China and India. The course will examine the economic structure and policies in the two countries, with a focus on comparing China and India’s recent economic successes and failures and their past development policies and strategies. We will analyze the factors affecting the current reforms and transformation process in the two countries, from varying degrees of centrally planned communist/socialist economic systems, towards more decentralized reforming hybrid economies combining plan and market. Prerequisite(s): ECON 104, 105 or 106; Social Science (SO)

ECONH247 FINANCIAL AND MANAGERIAL ACCOUNTING
Neal Grabell
An introduction to financial accounting concepts, financial reporting, and managerial accounting. The course will address how accounting measures, records, and reports economic activities for business entities and how decision makers analyze, interpret, and use accounting information. Crosslisted: ICPR; Social Science (SO)

ECONH249 THE SOVIET SYSTEM AND ITS DEMISE
Vladimir Kontorovich
The Soviet system was inspired by some of the loftiest ideals of humanity. The entire society was redesigned so as to pursue common goals, rather than conflicting private objectives. The economy was run for people, not profits. The Soviet system is no more, but the ideas on which it was founded will probably always be with us. What does the largest social and economic experiment in history teach us? The course is 1/3 political science and 2/3 economics. Prerequisite(s): ECON 104, 105, or 106, or two one-semester courses in Political Science or History; Crosslisted: POLS and RUSS; Social Science (SO)

ECONH255 CRISES
Timothy Lambie-Hanson
This course will study the many dimensions of the 2008 Financial Crisis, and the ensuing macroeconomic recession in much of the industrialized world, through a variety of different perspectives, involving economic history, the history of economic thought, and also modern macroeconomic theory. Prerequisite(s): ECON 104, 105 or 106; Social Science (SO)

ECONH282 INEQUALITY AND PUBLIC POLICY
Matthew Incantalupo
An exploration of the relationship between policy and economic outcomes—or “who gets what”—in the United States. We will examine the causes of rising inequality and its effects on American democracy, with a focus on wages, taxes, healthcare, education, and criminal justice. Prerequisite(s): ECON 104, 105, or 106; Crosslisted: POLS; Social Science (SO)
ECON297 ECONOMIC SOCIOLOGY  
*Mark Gould*  
The sociological analysis of economic systems and the sociological reconstruction of microeconomic theory. Prerequisites(s): ECON 104, 105, or 106; Social Science (SO)

ECON298 IMPACT INVESTING  
*Shannon Mudd*  
Impact investing is investing to generate both a financial return and a positive social benefit. It supports firms seeking to address social, environmental and/or governance problems (ESG) in a sustainable way often within market activity. The focus of this course is to not only gain an understanding of the theory and practice of impact investing across its many components, but also to gain practical experience by assessing a particular set of potential impact investments, making formal presentations of findings to an investment committee leading to a recommendation for investment to a partnering foundation. Prerequisite(s): ECON 104, 105 or 106; Crosslisted: ICPR and PEAC; Social Science (SO)

ECON300 INTERMEDIATE MICROECONOMIC ANALYSIS  
*Vladimir Kontorovich*  
Microeconomic theory has developed around the analysis of Adam Smith’s “invisible hand” conjecture. To test this conjecture, we model the behavior of economic actors (consumers and firms) and their interaction in different markets (for goods, capital and labor). These models allow us to investigate the conditions under which these markets work well, less well, or not at all. In the process, basic tools and concepts used in other areas of economics are developed. Many of the topics covered in Introduction to Economics (ECON 105/106) are studied more rigorously and in greater depth. New Topics, such as behavior under risk, insurance, and imperfect information, are introduced. Prerequisite(s): ECON 104, 105 or 106, one other ECON course, and MATH 114 or 118; Social Science (SO)

ECON302 INTERMEDIATE MACROECONOMIC ANALYSIS  
*Timothy Lambie-Hanson*  
Analysis of the behavior of aggregate economic variables such as GDP, inflation, unemployment, interest rates, and the budget and trade deficits. Structured around the development of a New Keynesian/Neoclassical general equilibrium model which relates the markets for goods, money, and labor. Specific topics include: determinants of the business cycle, effects of fiscal and monetary policies, supply shocks, inflationary expectations. Prerequisite(s): ECON 104, 105 or 106 and one other ECON course and MATH 114; Social Science (SO)

ECON304 INTRODUCTION TO ECONOMETRICS  
*Anne Preston*  
Development of econometric theory introduced in Economics 203. Includes topics such as ordinary least squares estimation, estimation of models with nonlinear forms, instrumental variables, and maximum likelihood estimation. Emphasis will be on application of econometric techniques to real economic and social policy issues such as labor market discrimination, worker productivity, and educational financing. Students will be expected to use data sets to evaluate policy issues and will be required to make a final presentation of findings in class. Prerequisite(s): ECON 203; Social Science (SO)

ECON306 ADVANCED CORPORATE FINANCE  
*Shannon Mudd*  
This course examines theories and practices of corporate finance and how they have informed each other in their development. The focus is on financing at the firm level. Topics include valuation and risk measures both at the level of individual securities and the level of firms, project analysis, cost of capital, capital budgeting, and financial statement analysis. Prerequisite(s): ECON 203 or 204 and ECON 300; Social Science (SO)

ECON311 THEORY OF NON-COOPERATIVE GAMES  
*Matthew Incantalupo*  
A course on Game Theory. We will examine mathematical models of how rational actors engage in collaboration and conflict. Topics include utility theory, social choice, normal and extensive-form games, games with incomplete information, repeated games, and bargaining. We will connect these topics to applications in business, economics, law, politics, and biology. Our focus is on game theory as a tool to understand strategic interaction, and not just a collection of models to solve. Prerequisite(s): ECON 300; Social Science (SO)
ECONH331 TOPICS IN LABOR ECONOMICS
Staff
This course surveys a broad range topics related to labor markets including; the theory of labor supply (both static and dynamic), labor demand, labor market equilibrium, unemployment, employment contracting and personnel economics, labor unions, investments in education and training, discrimination, and patterns of inequality. We will also discuss applications of economic theory to important public policy issues such as minimum wage laws and welfare reform. Prerequisite(s) or corequisite(s): ECON 300; Social Science (SO)

ECONH334 NATURAL RESOURCE ECONOMICS
Steven Smith
This course explores natural resources as an economic concept. Through mathematical and graphical analyses, we will study the value and allocation of renewable and non-renewable resources as well as concepts of sustainability and conservation. Prerequisite(s): ECON 300; Crosslisted: ENVS; Social Science (SO)

ECONH347 ADVANCED MACROECONOMICS
Carola Binder
This course builds upon the theory introduced in intermediate macroeconomics, with emphasis on empirical research and tests of the effects of macroeconomic policy. Students will present a recent journal article to the class and will write policy briefs on current issues in macroeconomic policy. Prerequisite(s): ECON 203 or 204, ECON 302. ECON 304 is recommended; Social Science (SO)

ECONH355 ADVANCED MICROECONOMICS: UNCERTAINTY
Staff
Using microeconomics we study theories of choice under uncertainty; risk aversion and applications to insurance and portfolio choice; equilibrium under uncertainty in asset markets; asymmetric information; applications to the design of incentives, contracts, contests, and auctions; common understanding and coordination. Prerequisite(s): MATH 121, and at least one of ECON 300 or MATH 215, ECON 204 or MATH 203 is desirable; Social Science (SO)

ECONH360 MATHEMATICAL ECONOMICS
Staff
A study of advanced mathematical tools used in economic analysis. Topics include eigenvalues and quadratic forms, differential equations, convex programming and dynamic programming. Applications to consumer theory, generalized linear regression, stability of equilibrium, and models of growth and search. Fulfills Mathematic Economics (MTEC) Concentration. Prerequisite(s): MATH 121 (or MATH 216) and MATH 215. ECON 300 is desirable. Crosslisted: MATH; Quantitative (QU), Social Science (SO)

ECONH371 JUNIOR RESEARCH SEMINAR: PSYCHOLOGICAL BIASES AND ECONOMIC DECISIONS
Staff
A seminar-based course covering current research on the role of psychological biases in economic decision-making. The focus is on critical reading of recent work and developing students’ own research. Prerequisite(s): ECON 300, 304; Social Science (SO)

ECONH372 JUNIOR RESEARCH SEMINAR: ADVANCED INTERNATIONAL TRADE
Saleha Jilani
This advanced seminar-based course covers topics in international trade theory and policy, with an emphasis on current research topics and developments. Determinants of international trade and foreign investment will be analyzed, and we will examine the motivations for and consequences of tariffs and quantitative restrictions on trade. Topics will include dynamic comparative advantage, factor movements and multinational corporations, effects of trade on economic growth and income inequality, international trade policy negotiations, agreements and disputes, and economic integration. Prerequisite(s): ECON 300 and ECON 304 or permission. MATH 121 or 216 are recommended; Social Science (SO)

ECONH373 JUNIOR RESEARCH SEMINAR: ACCESS TO FINANCE
Shannon Mudd
This seminar examines the determinants of access to finance with particular emphasis on small business financing. The primary focus will be on commercial banking. We will examine such issues as banking structures, lending technologies, regulatory issues and problems of asymmetric information, all with a focus on access to finance. We will also examine microfinance as an alternative approach for providing financial services to the
ECONOMICS

poor. Prerequisite(s) or corequisite(s): ECON 203, 300 and 304; Social Science (SO)

ECONH374 JUNIOR RESEARCH SEMINAR: TOPICS IN INDUSTRIAL ORGANIZATION
Timothy Lambie-Hanson
Industrial organization is the study of firm behavior in imperfect competition. This seminar introduces important empirical and theoretical work in this field. Major topics include monopoly behavior, adverse selection, oligopoly, market foreclosure, collusion, and the theory of the firm.
Prerequisite(s): ECON 300, MATH 118; Social Science (SO)

ECONH377 JUNIOR RESEARCH SEMINAR: POLITICAL ECONOMY
Staff
The focus is on critical reading of seminal works and developing students own research skills. Topics include: models of elections and application of voting models to redistributive policies; legislative bargaining; interest groups/lobbying; dynamic models of fiscal policy, debt and more.
Prerequisite(s): MATH 118 and ECON 300; MATH 121 (or MATH 216) is desirable. Crosslisted: Political Science; Social Science (SO)

ECONH379 JUNIOR RESEARCH SEMINAR: THE FEDERAL RESERVE
Carola Binder
This course covers the history of central banking, with emphasis on the Federal Reserve. We will study the creation and evolution of the Fed, its role in economic and financial crises, and current debates in monetary policy. Prerequisite(s): ECON 302; Social Science (SO)

ECONH396 RESEARCH SEMINAR
Staff
Social Science (SO)
The Bryn Mawr/Haverford Education Program is based on the belief that education rests on dialogue. Focused on teaching and learning as social, political, and cultural activities, the Education Program challenges students to explore the relationships among schooling, human development, and society as they gain and create knowledge and skills of educational theory and practice. Students who complete one of the Education Program options are prepared to become lifelong learners, educators, researchers, leaders and agents of change. Each course includes a field experience—from two hours each week to full-time practice teaching—through which students learn to integrate academic and experiential knowledge.

LEARNING GOALS
Students study education in order to:
• approach learning as a pivotal human and cultural activity.
• explore ideas about how people and communities change and grow.
• investigate schooling as a powerful and problematic setting for personal and societal development.
• examine educational institutions in the context of political, economic and social dynamics.
• specialize in such topics as urban schooling, special education, math and science education, literacies and education, educational psychology, and English learners in U.S. schools.
• experience fieldwork placements in classrooms and others educational settings in urban and suburban environments.
• prepare for careers in teaching, academia, counseling, leadership and other positions serving the public good.

CURRICULUM
The Bi-College Education Program offers several options. Students may:
• explore one or more aspects of education in areas of particular interest—such as urban schooling—by enrolling in single courses.
• pursue the Minor in Educational Studies.
• pursue the Concentration in Education, if majoring at Haverford in mathematics or physics.
• pursue a minor in Education leading to secondary teacher certification.
• complete the secondary teacher certification program after they graduate through the Post-Baccalaureate Teacher Education Program.

Students in the Tri-College community may also apply to sub-matriculate as juniors or seniors into the University of Pennsylvania, Graduate School of Education’s elementary or secondary education Master’s program.

The requirements for the two tracks of the minor (educational studies and teacher certification) and the Concentration in Educational Studies are described below. Students interested in these options should meet with the Education Program Adviser as early as possible for advice on scheduling, preferably by the sophomore year.

MINOR REQUIREMENTS
The following two minors are available to Haverford and Bryn Mawr students via Bryn Mawr:

Educational Studies Path
The Bi-College Minor in Educational Studies is an interdisciplinary exploration of the cultural, political, developmental, and interactional dimensions of teaching and learning and is designed for students with a broad range of education-related interests, such as graduate study in education, pursuit of elementary or secondary certification after graduation, or a host of activities that require educational expertise. Many professions and pursuits—management and training positions, research, administration and policy work, and careers in social work, health and law—involve using an educator’s skills and knowledge. Civic engagement, community development, and work towards social justice also require knowledge of how people learn and change. Because students interested in these or other education-related pursuits major in different subject areas and have different aspirations, they are encouraged to design a minor appropriate to their major area of study and their anticipated futures.

Requirements for the Minor in Educational Studies include:
• EDUC 200 (Critical Issues in Education)
• Four education courses. At least two must be offered by Education Program or affiliated faculty (J. Cohen/A. Cook-Sather/H. Curl/V. Donnay/D. Flaks/A. Lesnick). Up to two may be education courses offered by faculty in other departments (of these, one may be taken at
EDUCATION PROGRAM

Swarthmore, Penn, or while studying away).

• One of the following as a culminating course: EDUC 311 (Theories of Change in Educational Institutions), EDUC 301 (Curriculum and Pedagogy Seminar), SOWK 676 (Making Space for Learning: Pedagogical Planning and Facilitation), or an intensified version of EDUC 295 (Advocating Diversity in Higher Education).

Secondary Teacher Certification Path
The Bryn Mawr/Haverford Education Program is accredited by the state of Pennsylvania to prepare undergraduates and alumnae for certification in the following subject areas: English; languages, including French, Latin, and Spanish; mathematics; the sciences, including biology, chemistry, and physics; and social studies. Pursuit of certification in Chinese, German, and Russian is also possible but subject to availability of student teaching placements. Students certified in a language have K-12 certification.

To qualify for a teaching certificate, students must complete an academic major in the subject area in which they seek certification (or, in the case of social studies, students must major in history, political science, economics, anthropology, sociology, or Growth and Structure of Cities and take courses outside their major in the other areas). Within their major, students must select courses that help them meet the state standards for teachers in that subject area. Students must also complete the secondary teacher certification track of the minor in education, taking these courses:

• EDUC 200 (Critical Issues in Education)
• PSYC 203 (Educational Psychology)
• EDUC 210 (Perspectives on Special Education)
• EDUC 275 (English Learners in U.S. Schools)
• EDUC 301 (Curriculum and Pedagogy Seminar) (fall semester, prior to student teaching)
• EDUC 302 (Practice Teaching Seminar) and EDUC 303 (Practice Teaching). These courses are taken concurrently for three credits.

Students preparing for certification must also take two courses in English and two courses in math, maintain a grade point average of 3.0 or higher, and pass a series of exams for beginning teachers (state requirements). To be admitted to the culminating student teaching phase of the program, students must earn a grade of 2.7 or higher in both EDUC 200 (Critical Issues in Education) and EDUC 301 (Curriculum and Pedagogy) and be recommended by their major department and the director of the Education Program. To be recommended for certification, students must earn a grade of 2.7 or higher in EDUC 302 (Practice Teaching Seminar) and a grade of Satisfactory in EDUC 303 (Practice Teaching).

Note: Students practice-teach full time for 12 weeks in a local school during the spring semester of their senior year. Given this demanding schedule, students are not able to take courses other than the Practice Teaching Seminar and senior seminar for their major.

Graduates may complete the requirements for secondary teacher certification at Bryn Mawr in a post-baccalaureate program.

Title II Reporting
Title II of the High Education Act (HEA) requires that a full teacher preparation report, including the institution's pass rate on assessments as well as the state's pass rate, be available to the public on request. Students may request a report from Ann Brown at abrown@brynmawr.edu or (610) 526-5376.

CONCENTRATION REQUIREMENTS
Students majoring in mathematics or physics at Haverford may declare an Area of Concentration in Educational Studies. For the Concentration, students take four courses in the education program:

• EDUC 200 (Critical Issues in Education)
• Two education courses (must be courses offered by Education Program or affiliated faculty (J. Cohen/A. Cook-Sather/H. Curl/V. Donnay/D. Flaks/A. Lesnick)
• One of the following as a culminating course: EDUC 311 (Theories of Change in Educational Institutions), EDUC 301 (Curriculum and Pedagogy Seminar), SOWK 676 (Making Space for Learning: Pedagogical Planning and Facilitation), or an intensified version of EDUC 295 (Advocating Diversity in Higher Education).

In addition to these education courses, students take two courses in their major field of study. A unit of Independent Study within the major may be used to fulfill this requirement.

Mathematics majors
To complete the concentration in educational studies, mathematics majors must:

• Earn credit for MATH 460 (Teaching Assistantship) in two different semesters, one half-credit each; and
• Choose the Mathematics Education option of the senior thesis, as outlined in the Standards for the Mathematics Senior Thesis.

Physics majors
Students take the following courses:
• PHYS 459b (Teaching Laboratory Physics), typically in the second semester of the junior year; and
• PHYS 460a (Association in Teaching Basic Physics), typically in the first semester of the senior year.

All senior physics majors prepare and present to the department a talk and paper based on independent work. Education concentrators have the option of choosing a topic related to physics pedagogy for their research.

STUDY ABROAD
We encourage students pursuing a teacher certification in a language to study abroad in a country where the language is spoken. Also, we accept towards the minor in education one education-related course a student takes while abroad.

POST-BACCALAUREATE TEACHER EDUCATION PROGRAM
Graduates of Bryn Mawr and Haverford Colleges may complete requirements for certification to teach at the secondary level by enrolling in the Bryn Mawr/Haverford Post-Baccalaureate Teacher Education Program. In general, students complete the program in one academic year if they have majored in the subject they plan to teach.

The program offers certification in the English, mathematics, sciences (biology, earth and space sciences, and physics), languages (French, German, Latin, and Spanish; Chinese and Russian are also possibilities if student teaching placements can be found), and social studies.

FACULTY
Jody Cohen
Term Professor in the Bi-Co Education Program

Alison Cook-Sather
Mary Katherine Woodworth Chair and Professor in the Bi-Co Education Program; Director of Peace, Conflict and Social Justice Program at Bryn Mawr College

Heather Curl
Lecturer

Debbie Flaks
Instructor

Alice Lesnick
Director and Term Professor in the Bi-Co Education Program; Faculty Convener for International Programs at Bryn Mawr College

COURSES AT HAVERFORD
EDUCH275 ENGLISH LEARNERS IN U.S. SCHOOLS: POLICIES AND PRACTICES
Heather Curl
This course focuses on educational policies and practices related to language minority students in the U.S. We examine English learners’ diverse experiences, educators’ approaches to working with linguistically diverse students, programs that address their strengths and needs, links between schools and communities, and issues of policy and advocacy. This is a Praxis II course (weekly fieldwork in a school or other educational setting). Social Science (SO)

EDUCH301 CURRICULUM AND PEDAGOGY SEMINAR
Heather Curl
A consideration of theoretical and applied issues related to effective curriculum design, pedagogical approaches and related issues of teaching and learning. Fieldwork is required. Enrollment is limited to 15 with priority given first to students pursuing certification and second to seniors planning to teach. Social Science (SO)

EDUCH266 SCHOOLS IN AMERICAN CITIES
Heather Curl
This course examines issues, challenges, and possibilities of urban education in contemporary America. We use as critical lenses issues of race, class, and culture; urban learners, teachers, and school systems; and restructuring and reform. While we look at urban education nationally over several decades, we use Philadelphia as a focal “case” that students investigate through documents and school placements. This is a Praxis II course (weekly fieldwork in a school required). Social Science (SO)

EDUCH302 PRACTICE TEACHING SEMINAR
Heather Curl
Drawing on participants diverse student teaching placements, this seminar invites exploration and analysis of ideas, perspectives and approaches to teaching at the middle and secondary levels. Taken
and schooling intersect and interact? How can educators—along with students, parents, and communities—learn and teach critical awareness of race as an idea and a system? With a focus on the U.S., we look at ways in which race as a way of creating power is embedded in earlier iterations of schooling, as in cases regarding access to education for Black, Latinx, and Asian students and in American Indian boarding schools, and how race is differently taken up in the work of such thinkers/educators as W.E.B. DuBois, James Baldwin, and Paulo Freire. We consider how such issues play out in the recent past and contemporary moment through ongoing cases on affirmative action; work in Critical Race Theory and LatCrit by such educators as Patrina Williams and Tara Yosso, and in decolonizing education by Eve Tuck and Gloria Anzaldua; and curriculum and pedagogy in the theory and practice of such educators as Kevin Kumashiro and movements such as Black Lives Matter. We also consider Bryn Mawr's own history, in light of how to move forward through critically engaged education. Cross-Cultural Analysis (CC). Counts toward Africana Studies. Social Science (SO)

EDUCB220 CHANGING PEDAGOGIES IN MATHEMATICS AND SCIENCE
Victor Donnay
This Praxis course will examine research-based approaches to teaching mathematics and science. What does research tell us about how people learn? How can one translate this learning theory into teaching approaches that will help all students learn mathematics and science? How are these new approaches, that often involve active, hands-on, inquiry based learning, being implemented in the classroom? What challenges arise when one tries to
bring about these types of changes in education? How do issues of equity, discrimination, and social justice impact math and science education? The Praxis component of the course usually involves two two-hour visits per week for eight weeks to a local math or science classroom. Cross-Cultural Analysis (CC). Counts toward Praxis Program. Social Science (SO)

EDUCB225 EMPOWERING LEARNERS
Alice Lesnick
This is a topics course. Course content varies. Praxis course. Prerequisite(s): EDUC B200 or permission of instructor. Social Science (SO)

EDUCB244 UNSETTLING LITERACY
Jody Cohen
Taught by teachers in the Education Program and English Department, each instructor is serving a “term professorship” at Bryn Mawr College, while doing long(er) term instruction at Riverside Correctional Facility in North Philadelphia. We will offer these two “walled communities” as comparative contexts for experiences and reflections on what it means to “learn our letters”: What gives us access, to texts and selves? What are the outcomes of such educational processes? Do we imagine “letters,” in Frederick Douglass’s words, as providing “the pathway from slavery to freedom,” and/or (as claimed by a contemporary criminologist) as “training good workers for a problematic system”? Does becoming “lettered” enable learners to fill roles in stratified, normalizing institutions, and/or give us increased leeway in living our lives, perhaps even opening up what educator Jean Anyon calls “radical possibilities”?

EDUCB255 TECHNOLOGY, EDUCATION AND SOCIETY ALTERING ENVIRONMENTS
Alice Lesnick
This course examines the dynamic role and impact of technology in classroom, informal, community, and global contexts. In order to develop agency and judgment in using, creating and evaluating technologies, students will learn via experience and critical exploration of associated questions of power, knowledge, culture, access, and identity. Two to three hours of field work per week. Prerequisite: EDUC 200 Cross-Cultural Analysis (CC)

EDUC B295 ADVOCATING DIVERSITY IN HIGHER EDUCATION
Alison Cook-Sather
As institutions of higher education embrace and even seek greater diversity, we also see an increase in tensions born of differences across which we have little preparation to communicate, learn, and live. This course will be co-created by students enrolled and the instructor, and it will provide a forum for exploration of diversity and difference and a platform for action and campus-wide education. Extensive, informal writing and more formal research and presentations will afford you the opportunity to craft empowering narratives for yourselves and your lives and to take research and teaching beyond the classroom. Two to three hours of campus-based field work required each week. Cross-Cultural Analysis (CC)

EDUCB 303 PRACTICE TEACHING IN SECONDARY SCHOOLS
Heather Curl
Supervised teaching in secondary schools (12 weeks). Two units of credit are given for this course. Open only to students preparing for state certification.

EDUCB403 SUPERVISED WORK
Staff
Social Science (SO)

SOWK B676.001 AND 002 MAKING SPACE FOR LEARNING: PEDAGOGICAL PLANNING AND FACILITATION IN HIGHER EDUCATION CONTEXTS
Alison Cook-Sather
Supported by the Teaching and Learning Institute (TLI) and a grant from The Andrew W. Mellon Foundation, this series of pedagogy workshops for graduate students may be taken in its entirety for course credit, or individual workshops may be attended as stand-alone sessions. Seven two-hour workshops focused on a variety of pedagogical issues (e.g., course design, teaching styles, creating culturally responsive classrooms, grading) are scheduled for both the fall and the spring semesters.* These are interactive workshops, some of which require the completion of reading in advance and some of which include discussion of texts during the workshops themselves, but all of which focus on active, collaborative explorations of pedagogical issues. A full list of the workshop topics is available through the Dean’s Office. These workshops count toward the completion of the Dean’s Certificate in Pedagogy (brynmawr.edu/gsas/deans-certificate-pedagogy). Enrollment limited to 5 advanced undergraduates.
While Haverford does not offer a formal engineering degree program, many of our graduates have pursued successful and interesting careers in various engineering disciplines. Our partnerships with the University of Pennsylvania and the California Institute of Technology (Caltech) offer robust—and unique—opportunities.

**4+1 ENGINEERING PROGRAM WITH THE UNIVERSITY OF PENNSYLVANIA**

Study for four years at Haverford, then one year at Penn, and receive a Bachelor of Science from Haverford and a Master's in Engineering from Penn. Haverford is the first liberal arts college in the world to enter into such an agreement with an Ivy League engineering program.

During your four years at Haverford, you will take between zero and four undergraduate engineering courses (depending on your field of interest) through our course exchange agreements with Penn and Swarthmore. Typically, you will start taking these during your sophomore year, but it is essential to begin taking appropriate science and math courses at Haverford in the first semester of your freshman year. Please consult with the Haverford faculty contact for the Master's degree(s) that interest you most (see below).

You will formally apply to the 4+1 program any time between the end of your sophomore year and mid-summer after your junior year; a GPA of 3.0 in all courses and of 3.0 in science and math courses is required to apply. The admissions decision is based on your transcript and letters of recommendation from one or more Haverford faculty members. Once accepted, and after completing any prerequisite undergraduate engineering and science courses, you will take three graduate engineering courses at Penn while still enrolled at Haverford. (There is no additional financial charge for these courses.) During your four years at Haverford, you will also complete all graduation requirements, including the major. You graduate from Haverford at the normal time, along with your class.

The fifth year of the program is spent entirely at Penn. You will take seven additional graduate courses to complete the requirements for the Master's degree. There is no financial aid available from Penn for the fifth year of the program, though you are eligible for federal student loans.

Interested students should consult their adviser and the College's adviser for the 4+1 program as early as possible.

**3/2 ENGINEERING PROGRAM WITH THE CALIFORNIA INSTITUTE OF TECHNOLOGY**

Haverford and CalTech have a joint program under which a student who is interested in engineering may, in the first semester of his/her junior year, apply for transfer to an engineering program at CalTech. If accepted into the program, then at the end of five years (three at Haverford, two at CalTech), the student will be awarded a Bachelor of Arts or Bachelor of Science degree by Haverford and a Bachelor of Engineering Degree by CalTech. For each engineering discipline, there is a required set of courses to be taken at Haverford during the first three years of the program. Interested students should consult their adviser and the College’s adviser for the 3/2 Program (Professor Walter Smith) about the proper course selection; this consultation should occur as early as possible. A cumulative grade point average of 3.5 is generally expected for this program.

**MASTER'S DEGREE AFTER STUDY AT HAVERFORD**

For many students interested in engineering, the best option is to spend the full four years at Haverford, taking two or three engineering courses through our course exchange agreements with Swarthmore and the University of Pennsylvania, then to apply for a Master's or Ph.D. program elsewhere.

The Master's takes 1.5-2 additional years to complete, while the Ph.D. takes 4-6 years. Students planning for this option should contact the Engineering Coordinator, Professor Walter Smith (wsmith@haverford.edu), as early as possible during their time at Haverford.
ENGINEERING

For more information about these programs, see the Degree Partnership Program listings in this Catalog.
The English Department offers courses in the literary traditions of the English-speaking world. Students will expand their ability to respond to texts thoughtfully and critically, and to articulate those responses in clear and fluent English. The department aims to develop cultural and media literacy by introducing students to the range of literary traditions, broadly conceived, in the English language, and to familiarize them with major or defining instances of filmic, performative and visual texts.

This discipline prepares interested students for postgraduate work in English and other subjects as well as careers in publishing, international business, government and policy, education, healthcare, and more. Our students have been recipients of many prestigious awards, including Fulbright Fellowships and a Rhodes Scholarship, and graduates have gone on to highly selective graduate schools and law schools. Many of our graduates have served in the Peace Corps or AmeriCorps and pursue careers in service and social justice.

English majors who plan to do postgraduate work should know that doctoral programs require a reading knowledge of one or two foreign languages.

LEARNING GOALS
Our courses provide opportunities to:

• cultivate particular and deep understanding of specific periods, genres, authors, movements, and aesthetic or analytically significant issues.
• grow into discerning and careful readers responsive to formal, stylistic, and thematic elements of texts, and capable of understanding them as responses to the cultural contexts in which they emerge.
• develop an interdisciplinary approach to reading literature that crosses borders and makes interesting connections with material and methods in other disciplines and cultures.

CURRICULUM
In our curriculum we seek to maintain a working balance between:

• canons of British, American and global literatures, including African American literature, Asian American literature, Postcolonial literature, South African literature, and Irish literature, and
• courses inflected by particular theoretical foci, such as performance theory, queer theory, postcolonial theory, trauma theory, media and visual studies, and environmental studies.

Students may count courses in English taken at Bryn Mawr, Swarthmore, and the University of Pennsylvania toward the Haverford English major. Students may receive major credit for one semester of coursework in creative writing. Students who submit a portfolio of work, no later than the end of first term of their junior year, may be admitted to the Creative Writing Concentration (see below).

Up-to-date information about the English Department’s activities and courses, including extended course descriptions and syllabi, is available on the departmental website.

MAJOR REQUIREMENTS
• Admission to the major requires completion of two courses at the 200 level by the end of the sophomore year; one of these must be an “introductory emphasis” course (a list of such courses will be issued each semester). ENGL 150L may be presented in place of one 200-level course.
• ENGL 298 and 299, the two-semester Junior Seminar in English.
• ENGL 298J, the yearlong Junior Seminar tutorial.
• ENGL 399F (fall) and 399B (spring) for Senior Conference.
• Seven courses at the 200 and 300 levels of which:
  o at least two must be in literature written before 1800.
  o at least two must be at the 300 level.

Note: The department will give major credit for a semester course in a foreign literature in the original language or for Comparative Literature 200. No more than four major credits will be awarded for work done beyond the Tri-College Consortium, whether abroad or in the U.S. Courses taken in the Bryn Mawr English Department and the Swarthmore English Department may also be counted towards the major at Haverford.
CREATIVE WRITING CONCENTRATION

Creative Writing courses at Haverford are open to all students. Only a handful of English majors per year, however, are accepted into the Creative Writing Concentration.

The Creative Writing Concentration entails:
• two courses in creative writing (only one of which is counted toward the major).
• writing a senior thesis composed of an original creative text (usually poetry, fiction or drama) and a rigorous critical introduction.

Students interested in completing a Creative Writing Concentration apply for acceptance in the spring semester of their junior year by submitting a portfolio of creative work to the department chair in March of their junior year. Each portfolio is read closely by the departmental concentration committee. Admission depends on the number of applicants and the committee’s assessment of whether the work demonstrates a readiness to generate a substantial literary project.

SENIOR PROJECT

Overview
The culminating research experience for our majors is Senior Seminar, ENGL 399. The course carries 1.5 credits and involves two parts: a critical essay based on independent research and reading guided by a faculty mentor; and a comprehensive oral examination that covers the thesis and the coursework the student has done towards the major. Creative Writing concentrators produce, instead of the critical essay, a portfolio of poems or short stories, a novella, or a screenplay accompanied by a foreword or afterword that reflects on their artistic choices and offers an analytic framework within which the work may be understood.

Preparatory Work
English majors take Junior Seminar, a year-long course that considers both major works in the field and critical and theoretical materials in the discipline. This methodological focus, along with an oral exam at the end of the first semester and comprehensive written exam at the end of the second, prepares students for the extended research and oral expectations of Senior Conference. More information on Junior Seminar is available on the department’s website. Students also participate in a workshop conducted by the Writing Program during the spring preceding the senior year: this meeting encourages junior majors to draw upon the coursework they have already undertaken both to identify areas, topics, authors, and critical questions and to begin reading widely in preparation for their thesis.

Senior Conference
Fall Semester Senior Year:
Students in the Senior Conference propose research topics to faculty consultants and are assigned to a faculty adviser by the middle of the fall semester. Students mark out an area of interest focused on an author, text, genre, theme, or formal feature, familiarize themselves with the major critical voices and debates pertaining to this field, and identify a set of issues that they investigate and analyze in their essays. Students meet each week in groups before moving to individualized meetings with their thesis adviser.

September: submission of essay topic and preferences for faculty consultant
October: description of project, approved by assigned faculty consultant
October: meeting with Reference Librarian
November: two-page thesis statement due with short bibliography of relevant primary and critical sources.
December: detailed annotated bibliography

Spring Semester Senior Year:
Students have individual tutorials as they work towards submission of a draft and final thesis. At the end of the spring semester, eight students give presentations of their work over the course of two evenings. One-hour oral examinations are administered during the following week by the thesis adviser, a second reader, and a third examiner over a three- to four-day period.

January: full outline and 4-5 draft pages of essay due
February: completed rough draft due
April: final draft of essay due
April: abstracts and reflective statements due
April: Oral Exam lists due
April: Senior Presentations to full department
May: Oral Comprehensive Examinations with department panel

Additional information about Senior Conference and the Senior Thesis can be found on the
Senior Project Learning Goals
The Senior Conference will encourage students to:
• mark out productive and independent lines of intellectual inquiry.
• understand theoretical and critical works in the discipline.
• engage with primary and secondary literature.
• develop a critical writing voice for article-length work.
• prepare a bibliography of works for oral examination.
• hone oral skills of synthesis and dialogue in presentation and exams.
• reflect in writing and speech about the thesis process.
• experience scholarship as collaboration: work closely with a faculty adviser and peers on developing the project.
• define scholarship as process: work through the stages of a research project.

Senior Project Assessment
The department seeks well-written, persuasive essays that advance independent and original arguments about texts. Theses will be based on insightful close readings and deep engagement with relevant critical and background material. The creative thesis option is assayed for the imagination with which particular projects are conceived, control over the medium, inventive play with generic conventions, insight, clarity and beauty of expression, and the capacity for self-reflection as demonstrated in the critical foreword/afterword.

Students are assessed at various stages of the process, described below, both by individual advisers and department faculty as a whole. Final letter grades are decided upon by the full department in careful discussion and consideration of student performance at each stage. Students receive extensive written comments from first reader (faculty mentor) and second reader at the end of the process.

The faculty mentor provides feedback on the following elements prior to the student examination:
• Preliminary proposal.
• 4-5 pages of preliminary draft.
• Full draft.
• Annotated bibliography.

ENGLISH

REQUIREMENTS FOR HONORS
The department awards honors in English on the basis of performance in coursework within the Tri-College departments, the senior essay and the oral examination conducted at the end of the senior year. The department reserves high honors for distinguished achievement in all three of these areas.

CONCENTRATIONS AND INTERDISCIPLINARY MINORS
The English major shares a number of courses with concentrations including Gender and Sexuality, African and Africana Studies, Peace, Justice and Human Rights, as well as interdisciplinary majors including comparative literature. Students are encouraged to consider exploring these and other cognate areas in relation to the major.

STUDY ABROAD
Students who major in English often study abroad during their junior year. The department urges students choosing between the fall and spring semester abroad to opt for the spring. A small number of majors also study abroad for the full junior year.

PRIZES
The department awards up to four prizes annually:

The Terry M. Krieger ’69 Memorial Prize: Established by members of his family for the graduating senior demonstrating the greatest achievement in writing during the junior and senior years, to be chosen by the English department.

Newton Prize in English Literature: A prize established by A. Edward Newton may be awarded annually on the basis of departmental honors in English, provided that the work of the leading candidate, in the judgment of the English department, merits this award.

William Ellis Scull Prize: A prize established in 1929 by William Ellis Scull, Class of 1883, is
ENGLISH

awarded annually to the junior or senior who has shown the greatest achievement in voice and in the articulation of the English language.

**Ian Walker Prize:** A prize established in 2002, by friends, family and classmates as a memorial to honor Ian Walker, class of 1950. This prize is awarded to either a junior or senior English major.

**FACULTY**

**Laura McGrane**
Chair and Associate Professor

**Kimberly Benston**
President of the College and Francis B. Gummere Professor of English

**C. Stephen Finley**
Professor

**Maud McInerney**
Associate Professor (*on leave Fall 2016*)

**Rajeswari Mohan**
Associate Professor

**Lindsay Reckson** (*on leave 2016-17*)
Assistant Professor

**Debora Sherman**
Assistant Professor and Director of College Writing

**Asali Solomon**
Assistant Professor

**Gustavus Stadler**
Associate Professor

**Christina Zwarg**
Associate Professor

**Thomas Devaney**
Visiting Assistant Professor

**Kristen Mills**
Visiting Assistant Professor and Mellon Post-Doctoral Fellow

**Benjamin Parris**
Visiting Assistant Professor

**Jaclyn Pryor**
Visiting Assistant Professor

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**COURSES**

**ENGLH150 INTRODUCTION TO LITERARY ANALYSIS**

*Staff*

Fulfills Freshman Writing Requirement. Intended like other sections of the Writing Program to advance students’ critical reading and analytical writing skills, this course is geared specifically towards introducing students to the discipline that studies the literary traditions of the English language. One of its aims is to explore the broad range of thematic interests inherent in these traditions, sharing as they do common roots in the history of our language and its influences. The powers and limits of language, ideas of character and community, and the relation between person and place; heroic endeavor and the mystery of evil; loss and renovation these are among the themes to be tracked through various strategies of literary representation and interpretation in a variety of genres (epic, narrative, and poetry) and modes (realism, allegory, and romance), and across a range of historical periods. Crosslisted: Writing Program.

**ENGLH205 LEGENDS OF ARTHUR**

*Kristen Mills*

An exploration of the Arthurian legend, from its earliest versions to most recent retellings. The tradition of Arthurian tales is complex and various, combining Celtic and Christian mythologies. Sometimes called the “matter of Britain” the Arthurian narrative has been critical in establishing national and ethnic identities ever since the Middle Ages. Medieval notions of chivalry and courtly love also raise fascinating questions about the conflict between personal and private morality, and about the construction of both identity and gender. Humanities (HU)

**ENGLH207 CRUISING HOME: QUEER KINSHIP IN THEORY AND PRACTICE**

*Jaclyn Pryor*

In this course, we will explore historical and contemporary questions of kinship as they intersect with lesbian, gay, bisexual, transgender, two-spirit, and queer practices of building home, community, and social movements. Considering kinship as both site of violence and liberation, our texts will include political theory; literary texts—including novels, plays, poetry, and memoirs; and popular and experimental films and videos. Crosslisted: PEAC; Humanities (HU)
ENGLH210 READING POETRY
Stephen Finley
Introduction to the most common types of poetry in English: narrative, dramatic, lyric. The working approach is that of close reading, often word by word, in order to investigate the poetic uses of rhythm and pattern; of sound and music; of appeals to the senses; of allusion to history, art, other literature; of connotation and denotation; and of metaphor. Humanities (HU)

ENGLH211 INTRODUCTION TO POSTCOLONIAL LITERATURE
Rajeswari Mohan
An introductory survey of English literature from regions that used to be part of the British Empire, focusing on topics such as the representation of first contact, the influence of western education and the English language, the effects of colonial violence, displacement, migration, and exile; we will focus specifically on the aesthetic strategies that have come to be associated with this body of literature. This course satisfies the Introductory Emphasis Requirement for the major. Humanities (HU)

ENGLH212 THE BIBLE AND LITERATURE
Stephen Finley
A study of the Bible and its diverse genres, including legendary history, law, chronicle, psalm, love-song and dirge, prophecy, gospel, epistle, and eschatology. This study is accompanied by an extremely various collection of literary material, drawn from traditional and contemporary sources, and from several languages (including Hebrew), in order to illustrate the continued life of Biblical narrative and poetry. Humanities (HU)

ENGLH214 LITERARY THEORY: THE HUMAN
Benjamin Parris
This course serves as an introduction to literary theory through a study of philosophical, aesthetic and theoretical texts concerned with what literature is and how it works. Readings include Plato, Aristotle, Sidney, Marx, Nietzsche, Freud, Wimsatt and Beardsley, Frye, Levi-Strauss, Derrida, Lacan, Foucault, Deleuze, Cixous, Sedgwick, and Butler. Humanities (HU)

ENGLH216 IN THE AMERICA STRAIN: MUSIC IN WRITING 1855-1975
Thomas Devaney
The seminar is an investigation of music in American literature. Walt Whitman was immersed in opera; Emily Dickinson was steeped in the hymnbook; Zora Neale Hurston in folksong; Amiri Baraka in the blues and bebop; John Cage in silence. We will explore how poetic music and ‘music’ diverge, but also look at the ways in which music and poetry have fed and inspired each other. Prerequisite(s): entry emphasis English course suggested; Humanities (HU)

ENGLH227 THE EARLY MODERN PERIOD: BIOPower FROM MARLOWE TO MILTON
Benjamin Parris
This course introduces students to early modern literature through a selection of major literary works from the period, with a conceptual focus on early modern biopower, biopolitics and sovereignty. Early Modern readings include Marlowe, Spenser, Shakespeare, and Milton; theoretical texts by Michel Foucault, Giorgio Agamben, and Julia Reinhard Lupton. Humanities (HU)

ENGLH228 TOPICS IN EARLY MODERN LITERATURE: VIRTUE, VICE AND PROFIT
Benjamin Parris
This course introduces students to prominent works of English drama from the late 16th and early 17th centuries, with an emphasis on the rise of political economy. We will consider how English drama written and performed during the emergence of capitalism participates in shifting notions of spiritual, moral and economic value. Plays by Kyd, Marlowe, Webster, Beaumont, Jonson, and Shakespeare will be read alongside intellectual and cultural history by Marx, Hirschman, Agnew and others. Humanities (HU)

ENGLH232 PERFORMANCE, LITERATURE AND THE ARCHIVE
Jacelyn Pryor
An examination of the uses of performance theory for reading 19th, 20th, and 21st-century American literature. This course uses performance theory, which grapples with questions of embodiment, eventfulness, gesture, identity, presence, reproduction, script, and timing, to ask what kind of relations these texts enact or make possible within an American tradition, and how they register but also transform the histories that haunt them. Humanities (HU)
ENGLISH

ENGLH233 TOPICS IN CARIBBEAN LITERATURE  
Asali Solomon  
This course will focus on authors of the Caribbean and its diaspora, engaging fiction, theory, memoir, poetry and drama from the mid-twentieth century through the present. Core themes will include migration, class, colonialism, racial identity, gender and sexuality. Crosslisted: Africana Studies; Humanities (HU)

ENGLH237 LIVING WITH THE DEAD: ATTITUDES TOWARDS DEATH IN MEDIEVAL BRITAIN  
Kristen Mills  
An examination of changing attitudes towards death in medieval Britain, through entwined discourses about burial, the dead, and the afterlife. Topics include burial practices, the location of graves, saints’ bodies, the doctrine of purgatory, and tales of the restless dead. Crosslisted: Comparative Literature; Humanities (HU)

ENGLH253 ENGLISH POETRY FROM TENNYSON TO ELIOT  
Stephen Finley  
A study of Tennyson, Christina Rossetti, Browning, Hopkins, Hardy, Owen, and Eliot, from In Memoriam (1850) to Little Gidding (1942). Poetry will be approached via the visual arts. Humanities (HU)

ENGLH254 TOPICS IN VICTORIAN LITERATURE  
Debora Sherman  
An exploration of representations of the reader in written and visual texts to understand concerns about class mobility, shifting gender roles, and colonial expansion. Authors studied will include Austen, Shelley, Collins, Rossetti, Bronte, Ruskin, Macaulay, and Wilde. Humanities (HU)

ENGLH257 BRITISH TOPOGRAPHIES 1650-1914  
Stephen Finley  
Studies historical, ecological, and aesthetic changes to the English and Scottish landscape over a remarkable 250 years. The course uses the English estate garden (emblematic, “natural,” and romantic) as one measure of greenness against the forces (economic, political, and industrial) restructuring the landscape. Books/boots: requires walking tours of local gardens that were designed to reflect or refract this aesthetic history. Humanities (HU)

ENGLH258 THE NOVEL  
Rajeswari Mohan  
This course is a survey of the British novel in the 20th C, during which radical transformations were wrought in conventions of realism, characterization, plot, and narration. Texts include novels by Conrad, Woolf, Joyce, Greene, Carter, Fowles, Rushdie, and McEwan. This course satisfies the Introductory Emphasis for the major. Humanities (HU)

ENGLH262 THE AMERICAN MODERNS  
Gustavus Stadler  
Selected readings in poetry, fiction, and/or drama. Readings include Pound, Eliot, Hemingway, Fitzgerald, Faulkner, Barnes, West, Stevens, Toomer, Williams, Crane, Warren, and Kerouac. Humanities (HU)

ENGLH269 LOVE AND SEX: QUEERNESS IN THE AMERICAN NOVEL 1850-1950  
Gustavus Stadler  
An examination of non-normative sexualities and gender identifications as the guiding thematic and formal force in a series of U. S. novels. Humanities (HU)

ENGLH272 INTRODUCTION TO FILM: FORM, HISTORY, THEORY  
Nimisha Ladva  
An examination of intersections of power and place through film, this course considers the impact of global forces, including immigration and colonialism, in visual representations. It will examine film’s unique role in both representing and generating processes that transform power and place; and will introduce film as an object of critical inquiry. Humanities (HU)

ENGLH274 MODERN IRISH LITERATURE  
Debora Sherman  
Humanities (HU)

ENGLH276 LITERATURE AND POLITICS OF SOUTH AFRICAN APARTHEID  
Laura McGrane  
This course explores the history and historiography of South African apartheid from its inception in 1948 to its democratic overthrow in 1994. We will consider the interplay between complex definitions of race, gender, nation and difference in novels,
plays, and poetry written during the apartheid years. We will also discuss the tension between an ethics and aesthetics of literary production in a time of political oppression. What would it mean for one to write an apolitical text in a cultural space rife with racial and social tensions? Authors will include Nadine Gordimer, Alan Paton, J.M.Coetzee, Bessie Head, and Alex La Guma. Humanities (HU)

ENGLH277 POSTCOLONIAL WOMEN WRITERS
Rajeswari Mohan
Humanities (HU)

ENGLH289 CONTEMPORARY POETRY
Thomas Devaney
This course explores contemporary American poetry from 1950 to 2001 (from Ginsberg to Rankine). The class examines how poets continue a vital inquiry to redefine poetry in relation to culture, history, politics, sound, the body, and language itself. The Beats, the New American Poetry of the 1960s, the New York School, the Black Arts Movement, Feminist poetics, Queer Poetries, Ecopoetics and the Language Poets are read. Humanities (HU)

ENGLH290 HISTORY OF LITERARY THEORY: PLATO TO SHELLEY
Deborah Roberts
In this course we investigate central texts in literary theory from the Greeks to early nineteenth-century Europe, with attention to key critical terms and concepts. Topics of discussion include the nature and origin of literary creation, socio-political ideas about the function of poetry and the poet, mimetic models of literature, the roles of art and nature, literature in relation to its audience, theories of genre, defenses of poetry, allegorical interpretation, the idea of the sublime, definitions of the imagination, poetic language, and the application of critical theory to particular texts. Readings include selections from: Plato, Aristotle, Horace, Longinus, Dante, Augustine, Sidney, Corneille, Dryden, Pope, De Stael, Johnson, Wollstonecraft, Wordsworth, Coleridge, Keats, and Shelley. Requirements include five short papers and a final exam. Not open to first-year students. Humanities (HU)

ENGLH291 POETRY WRITING: A PRACTICAL WORKSHOP
Thomas Devaney
Students will write a poem a week, usually following an assignment that focuses on a particular strategy or form, from dramatic monologues to prose poems to sonnets. Students will present their work for discussion and friendly critique by the workshop, and will be encouraged to revise their work over the semester. There will be some in-class writing exercises but most writing will be done outside of class. Light reading assignments will include modern and contemporary as well as older poetry. There will also be a mini-session on the business of poetry. Humanities (HU)

ENGLH292 POETRY WRITING II-CONTEMPORARY VOICES
Thomas Devaney
English 292 is an advanced creative writing workshop focusing on poetry. Student work is the focus along with analysis of selected readings. Students will write poems each week (using a modeling method) and respond to the selected readings. Students are required to keep an online journal. A final portfolio of revised work is required. Prerequisite(s): writing sample required for consideration. Submit writing sample to Department of English in Woodside Cottage; Humanities (HU)

ENGLH293 INTRODUCTION TO CREATIVE WRITING: FICTION
Asali Solomon
This course is an introduction to the techniques and strategies of fiction writing, with particular emphasis on the short story. Weekly reading assignments will include both anthologized stories and student-generated ones. Humanities (HU)

ENGLH294 ADVANCED FICTION WRITING
Asali Solomon
Students in the Advanced Fiction Workshop will not only continue to hone the basic elements of their fiction, including character development, dialogue, plot and prose style, but will focus much of their efforts on revision and the process of “finishing” a story. Prerequisite(s): one fiction writing course or consent and submission of writing sample for consideration. Submit sample to course professor; Humanities (HU)

ENGLH298 JUNIOR SEMINAR I
Laura McGrane, Christina Zwarg
Junior seminar comprises of a two part sequence that, through class readings, discussion, and writing tutorials, engage students in a study of (1) a series of texts representing the range and diversity...
of the historical tradition in British and American literature, and (2) critical theory and practice as it has been influenced by hermeneutics, feminism, psychology, semiology, sociology, and the study of cultural representation, and as it reflects the methods of literary criticism. Humanities (HU)

**ENGLH299 JUNIOR SEMINAR II**  
*Laura McGrane, Christina Zwarg*

Part II of the sequence focuses on narrative and its theorization and criticism. Readings include George Eliot’s *Middlemarch*, stories by Henry James and Edgar Allen Poe, and James Joyce’s *Ulysses*. Prerequisite(s): English 298; Humanities (HU)

**ENGLH303 SITE WORK: PLACE-MAKING AND PERFORMANCE PRACTICE**  
*Jaclyn Pryor*

A hands-on exploration of the histories and methodologies of site-specific and land-based art and performance in continental American and colonial contexts. This course engages relevant literature from performance studies and related disciplines, considering the ways in which site work functions as a form of activist art. Prerequisite(s): one 200-level course in relevant areas, broadly construed, or consent of instructor; Humanities (HU)

**ENGLH309 AGAINST DEATH: OPPOSING CAPITAL PUNISHMENT IN AMERICAN LITERATURE AND CULTURE**  
*Staff*

Advanced inquiry into creative and critical responses to the death penalty in the United States from the 1830s to the 1970s. Our aim is to explore the relationship between art and social protest, and to examine how capital punishment has manifested U.S. histories of race, class, gender, religion, and sexuality. Readings in primary historical materials, literary and cultural analysis, and critical theory. Prerequisite(s): Freshman Writing, plus one 200-level ENG course; or freshman writing plus PEAC 101 or PEAC 201; Crosslisted: PEAC; Humanities (HU)

**ENGLH320 TOPICS IN EARLY MODERN LITERATURE: EARLY MODERN SENSATION**  
*Benjamin Parris*

Advanced seminar on the topic of early modern sensation—feeling, affect, perception and emotion in works of literature and philosophy from the early modern period. Emphasis is on early modern texts in dialogue with classical precedents and contemporary theoretical perspectives. Works by Plato, Aristotle, Ovid, Seneca, Spenser, Shakespeare, Milton, and Descartes alongside texts by Heidegger, Foucault, Deleuze and more. Prerequisite(s): two 200-level HU courses or permission of instructor; Humanities (HU)

**ENGLH347 TOPICS IN 18TH C LITERATURE: SPECTACLE IN 18TH CENTURY LONDON**  
*Laura McGrane*

An exploration of the act of seeing and the status of ‘the seen’ in eighteenth-century British literature and culture. Relying on theorists of the imagination and the visual, we will examine the implications of aesthetics and criminality across fiction, drama, popular and high art, essays, and poetry. We will also engage digital and embodied technologies of seeing in projects and discussion. Prerequisite(s): one 200-level English course or consent of instructor; Humanities (HU)

**ENGLH353 VICTORIAN POVERTY, ECOLOGY, AND PUBLIC HEALTH**  
*Stephen Finley*

A study of the “street-folk” and working poor of the 1840’s and 1850’s, in social documents, novels, and radical critique. Prerequisite(s): two 200-level English courses or consent of instructor. Humanities (HU)

**ENGLH354 REMEMBRANCE AND MOURNING: LITERATURE OF THE GREAT WAR**  
*Stephen Finley*

This course will study the responses of literature, music, and the visual arts (posters, photography and film) to the personal, historical, and spiritual catastrophe of the Great War, 1914-1918. Humanities (HU)

**ENGLH356 STUDIES IN AMERICAN ENVIRONMENT AND PLACE**  
*Stephen Finley*

Texts mostly 19th and 20th c. American, beginning with Thoreau. Topics: cultural production of landscape (rural and urban), environmental history, place studies, ecology. Visual resources: American landscape painting, and including 3-4 films. Prerequisite(s): two 200-level English courses or consent of the instructor; Humanities (HU)
ENGLH361 TOPICS AFRICAN-AMERICAN LIT: THE NEW BLACK ARTS MOVEMENT: EXPRESSIVE CULTURE AFTER BLACK NATIONALISM
Asali Solomon
This course will begin with an exploration of the literary achievement of the Black Arts Movement of the late 1960s and early 1970s, engaging with its political and cultural context. We will then move into contemporary fiction, poetry, nonfiction and theory, with an eye toward articulating the relationship between mainstream artists of the late 20th and 21st century, and the ideals of BAM. Prerequisite(s): two courses in English at the 200 level or permission of instructor; Humanities (HU)

ENGLH363 TOPICS IN AMERICAN LITERATURE: THE CONSTRUCTION OF WHITENESS IN PRECARIOUS TIMES
Gustavus Stadler
An interdisciplinary seminar on the construction of whiteness and class during the Great Depression and its aftermath. The core text of the class is the intermedial *Let Us Now Praise Famous Men* by James Agee and photographer Walker Evans. Prerequisite: two courses in English at the 200 level or consent; Humanities (HU)

ENGLH364 AFTER MASTERY: TRAUMA, RECONSTRUCTION, AND THE LITERARY EVENT
Christina Zwarg
This course will expose students to recent trauma theory and the segregated traditions of literary history. Thinking about trauma theory before and after Freud, we will look again at authors attempting to bring together (and sometimes keep apart) cultural traditions irrupting into literary form throughout the 19th and early 20th century. Humanities (HU)

ENGLH368 TOPICS IN ANGLO-SAXON LITERATURE: READING TOWARDS BEOWULF
Maud McInerney
An introduction to Anglo-Saxon language, literature and culture, working towards reading Beowulf in the original. Prerequisite(s): one 200-level English course or permission of instructor; Humanities (HU)

ENGLH373 TOPICS IN BRITISH LITERATURE: MODERNIST NARRATIVES
Rajeswari Mohan
A study of the historical, aesthetic, and epistemological implications of literary modernism in Britain. The course explores narrative strategies writers such as Conrad, Ford, Joyce, Woolf, Bowen, West, Rhys, and Durrell devised to bring coherence and resolution to the experience of crisis and fragmentation associated with modernity. Humanities (HU)

ENGLH390 THE CELTIC FRINGE: IRISH, SCOTS AND WELSH POETRY 1747-2009
Maud McInerney
Readings in the English-language poetry of Scotland, Ireland and Wales. This course will explore works by Dylan Thomas, W.B. Yeats, Hugh MacDiarmid and Seamus Heaney, as well as those of more recent poets such as Paul Muldoon, Carol-Ann Duffy, Kathleen Jamie, Tom Leonard, and Gwyneth Lewis. Special attention will be paid to the roots of contemporary Welsh, Irish and Scottish poetics in the native traditions of the Celtic languages and to the contribution of these poems to post-colonial discourse. Humanities (HU)

ENGLH399 SENIOR CONFERENCE
Staff
Students work closely with a faculty consultant over the course of their senior year in the research and writing of a 25-30 page essay or a piece of creative writing accompanied by a critical preface (for the Creative Writing Concentration). The course culminates in an hour-long oral examination that covers the thesis and coursework done for the major. Humanities (HU)
Haverford, Bryn Mawr, and Swarthmore offer an interdisciplinary Tri-College (Tri-Co) Environmental Studies (ES) Minor, involving departments and faculty on all three campuses from the natural sciences, engineering, math, the humanities, and the arts. The Tri-Co ES Minor brings together students and faculty to explore interactions among earth systems, human societies, and local and global environments.

The Tri-Co ES Minor aims to cultivate in students the capacity to identify and confront key environmental issues through a blend of multiple disciplines, encompassing historical, cultural, economic, political, scientific, and ethical modes of inquiry. Acknowledging the reciprocal dimensions of materiality and culture in the historical formations of environments, this program is broadly framed by a series of interlocking dialogues: between the “natural” and the “built,” the local and the global, and the human and the nonhuman.

To declare the minor, students should contact the Environmental Studies director at their home campus.

LEARNING GOALS

- Students will be able to identify and confront key environmental issues through a blend of multiple disciplines, including historical, cultural, economic, political, scientific and ethical modes of inquiry.
- Students will develop good communication skills with particular aptitude for dialogue across and between multiple disciplines.
- Students will collaborate on interdisciplinary group projects that relate to environmental issues and that reflect creativity and tangible research design and inquiry.

CURRICULUM

Students may complete an ES Minor in conjunction with any major at Haverford, Bryn Mawr or Swarthmore, pending approval of the student’s coursework plan by the home department and the home-campus ES director.

MINOR REQUIREMENTS

The Tri-Co ES Minor consists of six courses, including an introductory course and capstone course. Students may complete the courses at any of the three campuses (or any combination thereof). The six required courses are:

- A required introductory course to be taken prior to the senior year. This may be ENVS 101 at Haverford or Bryn Mawr or the parallel course at Swarthmore (ENVS 001). Any one of these courses satisfies the requirement, and students may take no more than one such course for credit toward the minor.
- Four elective course credits from approved lists of core and cognate courses, including two credits in each of the following two categories. Students may use no more than one cognate course credit for each category. (See the ES website for course lists and more about core and cognate courses.) For Haverford students, no more than one of these four course credits may be in the student’s major.
  - **Environmental Science, Engineering, and Math**: courses that build understanding and knowledge of scientific methods and theories, and explore how these can be applied in identifying and addressing environmental challenges. At least one of the courses in this category must have a laboratory component.
  - **Environmental Social Sciences, Humanities, and Arts**: courses that build understanding and knowledge of social and political structures as well as ethical considerations, and how these inform our individual and collective responses to environmental challenges.
- A senior seminar (case-based), with culminating work that reflects tangible research design and inquiry, but might materialize in any number of project forms. Haverford and Bryn Mawr’s ENVS 397 (Senior Seminar in Environmental Studies) and Swarthmore’s ENVS 091 (Environmental Studies Capstone Seminar) satisfy the requirement.

Haverford students interested in the ES Minor should plan their course schedule with the Haverford Director of Environmental Studies in consultation with their major adviser. In choosing electives, we encourage students to reach beyond...
their major, and to include mostly intermediate or advanced courses.

**AFFILIATED PROGRAMS**
For information about faculty and courses in Environmental Studies at Bryn Mawr and Swarthmore, visit the websites of those programs.

**STUDY ABROAD**
Students are encouraged to study abroad and receive ES credit by participation in programs in Australia, Denmark, Ecuador, Germany, Ireland, Scotland and South Africa. Other study abroad programs can receive ES credit by arrangement with the ES Director.

**FACULTY**
**Affiliated Faculty at Haverford:**
*Helen White*
Chemistry

*Kimberly Benston*
President of the College and Francis B. Gummere Professor of English

*Craig Borowiak*
Political Science

*Kaye Edwards*
Interdisciplinary Programs

*Steve Finley*
English

*Andrew Friedman*
History

*Darin Hayton*
History

*Benjamin Le*
Psychology

*Joshua Moses*
Anthropology

*Rob Scarrow*
Chemistry

*Steven Smith*
Economics

*Jonathan Wilson*
Biology, Environmental Studies Director

**Affiliated Faculty at Bryn Mawr:**
*Victor Donnay*
Mathematics, Environmental Studies Director

*Don Barber*
Geology, Alderfer Chair in Environmental Studies

*Peter Briggs*
English

*Jonas Goldsmith*
Chemistry

*Karen Greif*
Biology

*Carol Hager*
Political Science

*Thomas Mozdzer*
Biology

*Michael Rock*
Economics

*David Ross*
Economics

*Bethany Schneider*
English

*Nathan Wright*
Sociology

**Affiliated Faculty at Swarthmore:**
*Elizabeth Bolton*
English Literature, Environmental Studies Director

*Timothy Burke*
History

*Peter Collings*
Physics and Astronomy

*Giovanna DiChiuro*
Political Science

*Erich Carr Everbach*
Engineering
This course does not satisfy major requirements. Crosslisted: BIOL; Natural Science (NA)

**ENVSH150 INTRODUCTION TO OCEANOGRAPHY**

*Staff*

The oceans are one of the principal agents controlling global change, and are linked to nearly all of the biological, chemical, geological, and ecological systems on our planet's surface. In this course we will examine these systems and the impact of humans upon them. Enrollment limit: 50; Preference given to ENVS minors, 10 seats reserved for freshmen; Crosslisted: CHEM; Natural Science (NA)

**ENVSH172 ECOLOGICAL IMAGINARIES: IDENTITY, VIOLENCE, AND THE ENVIRONMENT**

*John Hyland*

This course interrogates how representations and imaginings of the environment are inseparable from issues of social justice. Considering how literature and art engage the environment, this course explores and investigates a range of topics and issues that arise from the intersection of racism, sexism, imperialism, globalization, and the environment. Open only to first-year students as assigned by the Director of College Writing. First Year Writing.

**ENVSH201 INTRO TO GEOGRAPHIC INFORMATION SYSTEMS FOR SOCIAL & ENVIRONMENTAL ANALYSIS**

*Staff*

This course is designed to introduce the foundations of Geographic Information Systems (GIS) with emphasis on applications for social and environmental analysis. It deals with basic principles of GIS and its use in spatial analysis and information management. Ultimately, students will design and carry out research projects on topics of their own choosing. Social Science (SO)

**ENVSH203 IMAGINING THE ARCTIC: READING CONTEMPORARY ETHNOGRAPHIES OF THE NORTH**

*Joshua Moses*

Circumpolar regions have been imagined as vast, remote, wild and pristine regions of the planet. More recently, with images of polar bears sinking on sea ice, the Arctic has been depicted as vulnerable, imperiled by climate change and environmental destruction. Focusing on
ethnography, this course examines how scholars have engaged critical issues facing the contemporary Arctic. Themes include local/global interactions, indigenous politics, resource extraction, human/animal relations, self-governance and cultural politics. Readings include, Franz Boas, Jean Briggs, Eleanor Leacock, George Wenzel, Hugh Brody, Julie Cruikshank, Kirk Dombrowski and Lisa Stevenson. Prerequisite(s): Intro to Anthropology or Case Studies in Environmental Issues (or the equivalent); Crosslisted: ANTH; Social Science (SO)

ENVSH206 INTRODUCTION TO PERMACULTURE
Rafter Ferguson
An introduction to permaculture, a design system aimed at meeting human needs while increasing ecosystem health, with attention to ethics, principles, design process, and techniques for application across a wide range of contexts. Prerequisite(s): sophomore standing (at time taking course); Crosslisted: ICPR; Social Science (SO)

ENVSH224 MICROBES—ANIMALS—HUMANS: ETHNOGRAPHIC ADVENTURES IN MULTISPECIES WORLDS
Christopher Roebuck
The course invites an anthropological engagement with what has been termed critical animal studies and the “turn to the animal.” This is a budding multidisciplinary field that investigates relations among human and non-human actants, and the shape of interspecies living. The course contends with relationships between “the human” and “the animal,” their ethical implications, and their social, political, and ecological effects in contemporary lifeworlds. We grapple with the complex, often contradictory, and always fragile interdependences of earthly life. Prerequisite(s): 100-level course in anthropology, health studies, environmental studies or related social sciences; Crosslisted: ANTH and HLTH; Social Science (SO)

ENVSH229 NEW INSTITUTIONAL ECONOMICS AND NATURAL RESOURCES
Steven Smith
Using the North American story of resource use, this course applies New Institutional Economics. When allocating scarce resources, institutions (property rights, laws, and norms) serve as constraints, but can evolve as circumstances change. This course addresses the how and why. Prerequisite(s): ECON 105 or ENVS 101; Crosslisted: ECON; Social Science (SO)

ENVSH281 NATURE/CULTURE: AN INTRODUCTION TO ENVIRONMENTAL ANTHROPOLOGY
Joshua Moses
This course will introduce students to the emerging field of environmental anthropology that focuses on the interrelationship between human cultures and natural environments. Environmental anthropology studies the various ways in which our biological survival and our social structures are influenced by environmental factors around us, while at the same time analyzing how our actions shape these environmental factors in turn. The course will engage with some of the key themes of the major sub-disciplines of environmental anthropology, viz. ecological anthropology, ethnoecology, political ecology, environmental justice, and sustainability studies. Topics covered will include human adaptation, traditional environmental knowledge, food justice, race/class and access to safe environment, etc. Prerequisite(s): ANTH 103 or ENVS 101; Social Science (SO)

ENVSH304 ENVIRONMENTAL PSYCHOLOGY & CONSERVATION
Benjamin Le
An examination of the links between the natural environment and psychological mechanisms using lenses of cognitive, social, and personality psychology, with a focus on conservation behavior and environmentalism. Prerequisite(s): at least one of the following classes: PSYC 213, 215, 220, 224, 280, 303, 325, 335; OR PSYC 100 and at least one ENVS course; OR instructor’s consent. In short, there are two pathways to this course: (a) prior coursework in cognitive, social, or personality psychology or (b) Intro Psych and prior coursework in ENVS; Crosslisted: PSYC; Social Science (SO)

ANTHH309 ANTHROPOLOGY AND URBAN ECOSYSTEMS
Joshua Moses
This course focuses on anthropology’s contributions (and potential contributions) to urban ecology. Urban ecology is inherently interdisciplinary, drawing on anthropology, urban planning, geography and forestry. Through a study of Philadelphia’s current struggles to redefine itself as a “green city,” students will gain grounding in anthropological theory and practice and urban ecology. Themes will include the intersections of...
race, class, and ecology; urban farming/gardening; brownfields; disaster and resilience; grassroots organizing; and ideas of place, home and nature. Students will take several field trips to Philadelphia in collaboration with the United States Department of Agriculture Philadelphia Field station. Readings will include: Joan Iverson Nassauer, Lewis Mumford, Peter Berg, Anne Rademacher, Aldo Leopold, Rowan Rowntree, Gregory Bateson, Lindsay K. Campbell, Carl Zimmer, Baltimore Ecosystem Study, Swyngedouw Heynen, Kim Fortun, Leila Darwish. Prerequisite(s): students will be selected based on instructor evaluation of written applications; Crosslisted: ANTH; Social Science (SO)

ENVSH314 PHOTOSYNTHESIS
Jonathan Wilson
A study of the function, origins, and history of photosynthesis on Earth, from bacteria to plants. This course will begin with a survey of photosynthetic metabolisms, explore photosynthetic microbial diversity, and investigate the evolution of terrestrial plants through the fossil record. Prerequisite(s): Biology 200 or consent of instructor; Crosslisted: BIOL; Natural Science (NA)

ENVSH334 NATURAL RESOURCE ECONOMICS
Steven Smith
This course explores natural resources as an economic concept. Through mathematical and graphical analyses, we will study the value and allocation of renewable and non-renewable resources as well as concepts of sustainability and conservation. Prerequisite(s): ECON 300; Crosslisted: ECON; Social Science (SO)

ENVSH358 TOPICS IN ENVIRONMENTAL CHEMISTRY
Helen White
Three lectures for one-half semester (one-half course credit). This course will examine chemical processes that occur in natural waters, soils and the atmosphere. Specific topics will be chosen with input from enrolled students, who will be expected to share in discussion/leadership. CHEM 358 may be repeated once for credit as long as the topical themes differ. Prerequisite(s): CHEM 304 or equivalent or permission; Crosslisted: CHEM; Natural Science (NA)

ENVSH397 SENIOR SEMINAR IN ENVIRONMENTAL STUDIES
Staff
This capstone Environmental Studies course is designed to allow Environmental Studies seniors to actively engage in environmental problem solving by bringing the perspectives and skills gained from their majors and applying them to collaborative interdisciplinary projects. Natural Science (NA)
Film Studies is an interdisciplinary program of inquiry bringing a range of analytical methods to bear upon films, film audiences, and the social and industrial contexts of film and media production, distribution and exhibition. The courses that comprise the minor in Film Studies reflect the diversity of approaches in the academic study of cinema. The minor is anchored by core courses in formal analysis, history and theory. Elective courses in particular film styles, directors, national cinemas, genres, areas of theory and criticism, video production, and issues in film and media culture add both breadth and depth to this program of study.

Film Studies is a Bryn Mawr College minor. Students must take a majority of courses on the Bryn Mawr campus; however, minors are encouraged to consider courses offered in the Tri-College consortium and at the University of Pennsylvania. Students should work with the director of the Film Studies Program to develop a minor work plan when declaring the minor.

MINOR REQUIREMENTS
In consultation with the program director, students design a program of study that includes a range of film genres, styles, national cinemas, eras and disciplinary and methodological approaches. Students are strongly encouraged to take at least one course addressing topics in global or non-western cinema. The minor consists of a total of six courses and must include the following:

- One introductory course in the formal analysis of film.
- One course in film history or an area of film history.
- One course in film theory or an area of film theory.
- Three electives.
- At least one of the six courses must be at the 300 level. Courses that fall into two or more of the above categories may fulfill the requirement of the student’s choosing, but may not fulfill more than one requirement simultaneously. Students should consult with their advisers to determine which courses, if any, may count simultaneously for multiple credentials. Final approval is at the discretion of the program director.

STEERING COMMITTEE
Timothy Harte
Chair and Associate Professor of Russian

Homay King (on leave Fall 2016)
Professor of History of Art

Hoang Tan Nguyen
Associate Professor of English and Film Studies

Michael Tratner
Mary E. Garrett Alumnae Professor of English

Sharon Ullman (on leave 2016-17)
Chair and Professor of History

AFFILIATED FACULTY
Shiamin Kwa (on leave 2016-17)
Assistant Professor on the Jye Chu Lectureship in Chinese Studies

Robert Ricci
Chair and Associate Professor of Italian

David Romberg
Lecturer

H. Rosi Song
Associate Professor of Spanish

COURSES
ARTW B266 SCREENWRITING
Staff
An introduction to screenwriting. Issues basic to the art of storytelling in film will be addressed and analyzed: character, dramatic structure, theme, setting, image, sound. The course focuses on the film adaptation; readings include novels, screenplays, and short stories. Films adapted from the readings will be screened. In the course of the semester, students will be expected to outline and complete the first act of an adapted screenplay of their own. Approach: Critical Interpretation (CI) Counts towards: Film Studies. (Spring 2017)
CSTS B274 GREEK TRAGEDY IN GLOBAL CINEMA
Annette Baertschi
This is a topics course. Topics vary; for fall 2016: Greek Tragedy in Contemporary Film. This course explores how contemporary film, a creative medium appealing to the entire demographic spectrum like Greek drama, looks back to the ancient origins. Examining both films that are directly based on Greek plays and films that make use of classical material without being explicitly classical in plot or setting, we will discuss how Greek mythology is reconstructed and appropriated for modern audiences and how the classical past continues to be culturally significant. A variety of methodological approaches such as film and gender theory, psychoanalysis, and feminist theory will be applied in addition to more straightforward literary-historical interpretation. Approach: Critical Interpretation (CI). Counts towards: Film Studies.

EALC B212 TOPICS: INTRODUCTION TO CHINESE LITERATURE
Staff
This is a topics course. Topics may vary. Approach: Cross-Cultural Analysis (CC); Critical Interpretation (CI). Counts towards: Film Studies. (Not Offered 2016-2017)

EALC B240 TOPICS IN CHINESE FILM
Staff
This is a topics course. Course content varies. Approach: Cross-Cultural Analysis (CC); Critical Interpretation (CI). Counts towards: Film Studies. (Not Offered 2016-2017)

EALC B281 FOOD IN TRANSLATION: THEORY AND PRACTICE
Staff
This semester we will explore the connections between what we eat and how we define ourselves in the context of global culture. We will proceed from the assumption that food is an object of culture, and that our contemplation of its transformations and translations in production, preparation, consumption, and distribution will inform our notions of personal and group identity. This course takes Chinese food as a case study, and examines the way that Chinese food moves from its host country to diasporic communities all over the world, using theories of translation as our theoretical and empirical foundation. From analyzing menu and ingredient translations to producing a short film based on interviews, we will consider the relationship between food and communication in a multilingual and multicultural world. Readings include theoretical texts on translation (Apter), recipe books and menus, Chinese and Chinese-American literature (Classic of Poetry, Mo Yan, Hong Kingston). Films include Ian Cheney’s “Searching for General Tso,” Wayne Wang’s “Soul of a Banquet” and “Eat a Bowl of Tea,” Ang Li’s “Eat Drink Man Woman,” and Wong Karwai’s “In the Mood for Love.” (Not Offered 2016-2017)

ENGL B205 INTRODUCTION TO FILM
Hoang Tan Nguyen
This course is intended to provide students with the tools of critical film analysis. Through readings of images and sounds, sections of films and entire narratives, students will cultivate the habits of critical viewing and establish a foundation for focused work in film studies. The course introduces formal and technical units of cinematic meaning and categories of genre and history that add up to the experiences and meanings we call cinema. Although much of the course material will focus on the Hollywood style of film, examples will be drawn from the history of cinema. Attendance at weekly screenings is mandatory. (Spring 2017)

ENGL B229 MOVIES AND MASS POLITICS
Staff
Movies and mass politics emerged together, altering entertainment and government in strangely similar ways. Fascism and Communism claimed an inherent relation to the masses and hence to movies; Hollywood rejected such claims. We will examine films that allude to Communism and Fascism, seeking to understand how they join in political debates and comment upon the mass experience of movie going. (Not Offered 2016-2017)

ENGL B324 TOPICS IN SHAKESPEARE: SHAKESPEARE ON FILM
Colby Gordon
Films and play texts vary from year to year. The course assumes significant prior experience of Shakespearean drama and/or Renaissance drama. Spring 2017: Global Shakespeare. We will read Shakespearean drama alongside the global
performance archives that update and remix Shakespeare for a world shaped by the War on Terror, globalization, occupation, and revolution. By pairing original texts and their adaptations, this course considers pressing issues in postcolonial theory, including cosmpolitanism; appropriation; colonial education and canon formation; nationalism; and the global city.

**ENGL B336 TOPICS IN FILM**  
*Hoang Tan Nguyen*  
This is a topics course. Course content varies. Fall 2016: Global Queer Cinema. This course asks, "What can the theories of globalization, transnationalism, and diaspora contribute to the study of same-sex eroticsims in the cinema?" To help us answer this question, we will base our investigation on a corpus of films drawn from across the globe (mostly from non-US contexts) that deal with non-normative sexualities.

**ENGL B355 PERFORMANCE STUDIES**  
*Staff*  
Introduces students to the field of performance studies, a multidisciplinary species of cultural studies which theorizes human actions as performances that both construct and resist cultural norms of race, gender, and sexuality. The course will explore "performativity" in everyday life as well as in the performing arts, and will include multiple viewings of dance and theater both on- and off-campus. In addition, we will consider the performative aspects of film and video productions. Counts towards: Gender and Sexuality Studies. (Not Offered 2016-2017)

**ENGL B367 ASIAN AMERICAN FILM VIDEO AND NEW MEDIA**  
*Staff*  
The course explores the role of pleasure in the production, reception, and performance of Asian American identities in film, video, and the internet, taking as its focus the sexual representation of Asian Americans in works produced by Asian American artists from 1915 to present. In several units of the course, we will study graphic sexual representations, including pornographic images and sex acts some may find objectionable. Students should be prepared to engage analytically with all class material. To maintain an atmosphere of mutual respect and solidarity among the participants in the class, no auditors will be allowed. Counts towards: Gender and Sexuality Studies. (Not Offered 2016-2017)

**ENGL B375 SEX ON SCREENS**  
*Staff*  
This course will provide a historical and theoretical overview of the ways moving image sex acts have been represented on screen, from early cinema’s silent film loops to today’s celebrity sex tapes. We will examine the ideological operations of sex in the cinema and aim to comprehend the multifarious ways viewers, filmmakers, critics, and scholars respond to dominant conceptions of sex-sexuality through alternative cinematic production and critical scholarship. Units include: stag movies, the Production Code and ratings system, European art cinema, sex ed, underground and the avant-garde, cult/sexploitation/blaxploitation, sexual revolution, hard core, women’s cinema, home video, queer cinema, HIV/AIDS, the digital revolution, feminist porn, and the Internet. Prerequisite(s): HART/COML B110: Identification in the Cinema; or ENGL/HART 205: Introduction to Film; or ENGL B299 History of Narrative Cinema, 1945 to the Present. Counts towards: Gender and Sexuality Studies. (Not Offered 2016-2017)

**GEOL B125 FOCUS: GEOLOGY IN FILM**  
*Pedro Marenco*  
This is a half semester Focus course. Geologic processes make for great film storylines, but filmmakers take great liberty with how they depict scientific “facts” and scientists. We will explore how and why filmmakers choose to deviate from science reality. We will study and view one film per week and discuss its issues from a geologist’s perspective. (Spring 2017)

**GNST B255 VIDEO PRODUCTION**  
*David Romberg*  
This course will explore aesthetic strategies utilized by low-budget film and video makers as each student works throughout the semester to complete a 7-15 minute film or video project. Course requirements include weekly screenings, reading assignments, and class screenings of rushes and roughcuts of student projects. Prerequisite(s): some prior film course experience necessary, instructor discretion. (Fall 2016)

**GNST B302 TOPICS IN VIDEO PRODUCTION**  
*Staff*
This is a topics course. Course content varies.
Prerequisite(s): GNST B255 or ENGL/HART B205 or ICPR H243 or ICPR H343 or ICPR H278 or ANTH H207 or an equivalent Video Production course, such as Documentary Production or an equivalent critical course in Film or Media Studies. (Not Offered 2016-2017)

HART B110 CRITICAL APPROACHES TO VISUAL REPRESENTATION: IDENTIFICATION IN THE CINEMA
Homay King
An introduction to the analysis of film through particular attention to the role of the spectator. Why do moving images compel our fascination? How exactly do film spectators relate to the people, objects, and places that appear on the screen? Wherein lies the power of images to move, attract, repel, persuade, or transform its viewers? In this course, students will be introduced to film theory through the rich and complex topic of identification. We will explore how points of view are framed in cinema, and how those viewing positions differ from those of still photography, advertising, video games, and other forms of media. Students will be encouraged to consider the role the cinematic medium plays in influencing our experience of a film: how it is not simply a film’s content, but the very form of representation that creates interactions between the spectator and the images on the screen. Film screenings include “Psycho,” “Being John Malkovich,” and others. Course is geared to freshman and those with no prior film instruction. Fulfills History of Art major 100-level course requirement, Film Studies minor. Introductory course or theory course requirement. Major Writing Requirement: Writing Intensive Counts towards: Film Studies. (Spring 2017)

HART B299 HISTORY OF NARRATIVE CINEMA, 1945 TO THE PRESENT
Staff
This course surveys the history of narrative film from 1945 through contemporary cinema. We will analyze a chronological series of styles and national cinemas, including Classical Hollywood, Italian Neorealism, the French New Wave, and other post-war movements and genres. Viewings of canonical films will be supplemented by more recent examples of global cinema. While historical in approach, this course emphasizes the theory and criticism of the sound film, and we will consider various methodological approaches to the aesthetic, socio-political, and psychological dimensions of cinema. Readings will provide historical context, and will introduce students to key concepts in film studies such as realism, formalism, spectatorship, the auteur theory, and genre studies. Fulfills the history requirement or the introductory course requirement for the Film Studies minor. Approach: Critical Interpretation (CI); Inquiry into the Past (IP). Counts towards: Film Studies. (Not Offered 2016-2017)

HART B306 FILM THEORY
Homay King
An introduction to major developments in film theory and criticism. Topics covered include: the specificity of film form; cinematic realism; the cinematic “author”; the politics and ideology of cinema; the relation between cinema and language; spectatorship, identification, and subjectivity; archival and historical problems in film studies; the relation between film studies and other disciplines of aesthetic and social criticism. Each week of the syllabus pairs critical writing(s) on a central principle of film analysis with a cinematic example. Class will be divided between discussion of critical texts and attempts to apply them to a primary cinematic text. Prerequisite(s): a course in Film Studies (HART B110, HART B299, ENGL B205, or the equivalent from another college by permission of instructor). Counts towards: Film Studies. (Spring 2017)

HART B334 TOPICS IN FILM STUDIES
Matthew Feliz
This is a topics course. Course content varies. Counts towards: Gender and Sexuality Studies; Film Studies

Fall 2016: Visual Culture and Technology. This course examines the intersections of art and technology across a wide range of visual culture and popular media. Beginning with an exploration of a set of aesthetic and cultural production that includes 16th century woodcuts, 17th century cabinets of curiosity, 18th century magic lantern shows, and 19th century stereoscopes and panoramas, the course will provide historical context for a consideration of the role that various forms of technology have played in shaping art, film and new media in the 20th and 21st century.
HIST B284 MOVIES AND AMERICA  
*Staff*
Movies are one of the most important means by which Americans come to know—or think they know—their own history. This class examines the complex cultural relationship between film and American historical self-fashioning. Approach: Critical Interpretation (CI); Inquiry into the Past (IP). Counts towards: Gender and Sexuality Studies; Film Studies. (Not Offered 2016-2017)

ITAL B212 ITALY TODAY: NEW VOICES, NEW WRITERS, NEW LITERATURE  
*Staff*
This course, taught in English, will focus primarily on the works of the so-called “migrant writers” who, having adopted the Italian language, have become a significant part of the new voice of Italy. In addition to the aesthetic appreciation of these works, this course will also take into consideration the social, cultural, and political factors surrounding them. The course will focus on works by writers who are now integral to Italian canon—among them: Cristina Ali-Farah, Igiaba Scego, Ghermandi Gabriella, Amara Lakhous. As part of the course, movies concerned with various aspects of Italian Migrant literature will be screened and analyzed. Approach: Cross-Cultural Analysis (CC); Critical Interpretation (CI). Counts towards: Gender and Sexuality Studies; Film Studies. (Not Offered 2016-2017)

ITAL B214 THE MYTH OF VENICE (1800-2000)  
*Michele Monserrati*
The Republic of Venice existed for over a millennium. This course begins in the year 1797 at the end of the Republic and the emerging of an extensive body of literature centered on Venice and its mythical facets. Readings will include the Romantic views of Venice (excerpts from Lord Byron, Fredrick Schiller, Wolgang von Goethe, Ugo Foscolo, Alessandro Manzoni) and the 20th century reshaping of the literary myth (readings from Thomas Mann, Filippo Tommaso Marinetti, Gabriele D’Annunzio, Henry James, and others). A journey into this fascinating tradition will shed light on how the literary and visual representation of Venice, rather than focusing on a nostalgic evocation of the death of the Republic, became a territory of exploration for literary modernity. The course is offered in English; all texts are provided in translation. One additional hour for the students who are taking the course for Italian credit. Suggested preparation: At least two 200-level literature courses. Approach: Cross-Cultural Analysis (CC). Counts towards: Film Studies. (Spring 2017)

ITAL B229 FOOD IN ITALIAN LITERATURE, CULTURE, AND CINEMA  
*Staff*
A profile of Italian literature/culture/cinema obtained through an analysis of gastronomic documents, films, literary texts, and magazines. We will also include a discussion of the Slow Food Revolution, a movement initiated in Italy in 1980 and now with a world-wide following, and its social, economic, ecological, aesthetic, and cultural impact to counteract fast food and to promote local food traditions. Course taught in English. One additional hour for students who want Italian credit. Prerequisite(s): ITAL 102. Approach: Cross-Cultural Analysis (CC); Critical Interpretation (CI) Counts towards: Film Studies. (Not Offered 2016-2017)

ITAL B255 UOMINI D’ONORE IN SICILIA: ITALIAN MAFIA IN LITERATURE AND CINEMA  
*Staff*
This course aims to explore representations of Mafia figures in Italian literature and cinema, with reference also to Italian-American films, starting from the ‘classical’ example of Sicily. The course will introduce students to both Italian Studies from an interdisciplinary perspective and also to narrative fiction, using Italian literature written by 19th, 20th, and 21st Italian Sicilian authors. Course is taught in Italian. Prerequisite(s): ITAL B102 or permission of the instructor. Approach: Cross-Cultural Analysis (CC). Counts towards: Film Studies. (Not Offered 2016-2017)

ITAL B310 DETECTIVE FICTION  
*Staff*
In English. Why is detective fiction so popular? What explains the continuing multiplication of detective texts despite the seemingly finite number of available plots? This course will explore the worldwide fascination with this genre beginning with European writers before turning to the more distant mystery stories from around the world. The international scope of the readings will highlight how authors in different countries have developed
their own national detective typologies while simultaneously responding to international influence of the British-American model. Italian majors taking this course for Italian credit will be required to meet for an additional hour with the instructor and to do the readings and writing in Italian. Suggested preparation: one literature course at the 200 level. Major Writing Requirement: Writing Intensive. Counts towards: Film Studies. (Not Offered 2016-2017)

**PSYC B375 MOVIES AND MADNESS: ABNORMAL PSYCHOLOGY THROUGH FILMS**
*Leslie Rescorla*
This writing-intensive seminar (maximum enrollment = 16 students) deals with critical analysis of how various forms of psychopathology are depicted in films. The primary focus of the seminar will be evaluating the degree of correspondence between the cinematic presentation and current research knowledge about the disorder, taking into account the historical period in which the film was made. For example, we will discuss how accurately the symptoms of the disorder are presented and how representative the protagonist is of people who typically manifest this disorder based on current research. We will also address the theory of etiology of the disorder depicted in the film, including discussion of the relevant intellectual history in the period when the film was made. Another focus will be how the film portrays the course of the disorder and how it depicts treatment for the disorder. This cinematic presentation will be evaluated with respect to current research on treatment for the disorder as well as the historical context of prevailing treatment for the disorder at the time the film was made. Prerequisite(s): PSYC B209. Major Writing Requirement: Writing Intensive. Counts towards: Child and Family Studies; Film Studies; Health Studies. (Fall 2016)

**RUSS B215 RUSSIAN AVANT-GARDE ART, LITERATURE AND FILM**
*Staff*
This course focuses on Russian avant-garde painting, literature and cinema at the start of the 20th century. Moving from Imperial Russian art to Stalinist aesthetics, we explore the rise of non-objective painting (Malevich, Kandinsky, etc.), ground-breaking literature (Bely, Mayakovsky), and revolutionary cinema (Vertov, Eisenstein). No knowledge of Russian required. Approach: Critical Interpretation (CI). Counts towards: Film Studies. (Not Offered 2016-2017)

**RUSS B217 THE CINEMA OF ANDREI TARKOVSKY**
*Staff*
This course will probe the cinematic oeuvre of the great Soviet filmmaker Andrei Tarkovsky, who produced some of the most compelling, significant film work of the 20th century. Looking at not only Tarkovsky’s films but also those films that influenced his work, we will explore the aesthetics, philosophy, and ideological pressure underlying Tarkovsky’s unique brand of cinema. Approach: Critical Interpretation (CI). Counts towards: Film Studies. (Not Offered 2016-2017)

**RUSS B238 TOPICS: THE HISTORY OF CINEMA 1895 TO 1945**
*Timothy Harte*
This is a topics course. Course content varies. Approach: Inquiry into the Past (IP) Major Writing Requirement: Writing Attentive Counts towards: Film Studies
*Spring 2017: Silent Film: From U.S. to Soviet Russia & Beyond.* This course will explore cinema from its earliest, most primitive beginnings up to the end of the silent era. While the course will focus on a variety of historical and theoretical aspects of cinema, the primary aim is to look at films analytically. Emphasis will be on the various artistic methods that went into the direction and production of a variety of celebrated silent films from Russia, Germany, the U.S. and elsewhere. These films will be considered in many contexts: artistic, historical, social, and even philosophical, so that students can develop a deeper understanding of silent cinema’s rapid evolution.

**RUSS B258 SOVIET AND EASTERN EUROPEAN CINEMA OF THE 1960s**
*Staff*
This course examines 1960s Soviet and Eastern European “New Wave” cinema, which won worldwide acclaim through its treatment of war, gender, and aesthetics. Films from Czechoslovakia, Hungary, Poland, Russia, and Yugoslavia will be viewed and analyzed, accompanied by readings on film history and theory. All films shown with subtitles; no knowledge of Russian or previous
study of film required. Approach: Cross-Cultural
Analysis (CC); Critical Interpretation (CI)
Major Writing Requirement: Writing Attentive
Counts towards: Film Studies. (Not Offered 2016-
2017)

SPAN B252 COMPASSION, INDIGNATION,
AND ANXIETY IN LATIN AMERICAN FILM
Staff
Stereotypically, Latin Americans are viewed as
“emotional people”—often a euphemism to mean
irrational, impulsive, wildly heroic, fickle. This
course takes this expression at face value to ask:
Are there particular emotions that identify Latin
Americans? And, conversely, do these “people”
become such because they share certain emotions?
Can we find a correlation between emotions and
political trajectories? To answer these questions, we
will explore three types of films that seem to have,
at different times, taken hold of the Latin American
imagination and feelings: melodramas (1950s-
1960s), documentaries (1970s-1990s), and “low-key”
comedies (since 2000s). Approach: Cross-Cultural
Analysis (CC). Counts towards: Film Studies; Latin
American, Iberian and Latina/o Studies. (Not
Offered 2016-2017)
In the Fine Arts Department, the focus is on the individual. Studio classes are small, and students from beginners to majors receive individual instruction.

Every student is encouraged to develop the physical and critical skills necessary to create art. The philosophy of the department is that observational skills are the cornerstone of all visual art disciplines. Cognition and processing information are key skills for any discipline—in the humanities or the sciences—and for this reason art at Haverford is specifically geared towards enhancing visual perception. Such finely tuned skills can benefit anyone professionally and personally.

The fine arts courses offered by the department are structured to accomplish the following:

- For students not majoring in fine arts: to develop a visual perception of form and to present knowledge and understanding of it in works of art.
- For students intending to major or to minor in fine arts: beyond the foregoing, to promote thinking in visual terms and to foster the skills needed to give expression to these in a coherent body of art works.

About 20 percent of Haverford students take fine arts courses while enrolled in the College. The students who major in fine arts and wish to continue their education are usually accepted at the professional graduate art school of their choice. Our alumni are distinguished professionals, active in the visual creative arts and allied fields.

**LEARNING GOALS**

All fine arts studio courses are designed for students to obtain motor skills, theoretical and critical thinking, and problem solving necessary to create art to the student’s fullest ability along with developing their own original ideas and concepts. Students achieve these goals in individual interactions such as critiques and hands-on instruction in small classroom settings. These educational goals are augmented by outside speakers, visiting artists, exhibitions and non-studio courses in visual culture sponsored by the department or taught by its faculty.

**CURRICULUM**

**Disciplines**

The fine arts program at Haverford centers around five disciplines: drawing, painting, printmaking, photography, and sculpture.

Each discipline is offered at both the introductory and advanced levels, exposing students to the rigors and processes of each medium. Students get the benefit of learning about the tradition and the practice in the introductory courses, and then utilize and alter those ideas and tools in the advanced courses.

Students are encouraged to channel multi-disciplinary interests and ideas in their work, and to find an identity and voice through the medium, as well as producing work that is relevant to them.

- **Drawing** is typically viewed as practice or a preparatory exercise for a more “finalized” project (i.e. painting, sculpture, printmaking, installation), and as the definition of art becomes ever-changing, drawing by contemporary standards includes sketches and everything in between as final works. Especially with the influx of street art and illustration, sketches, lists, and doodles are taken both seriously and as final art forms. Drawing at Haverford introduces and expands the traditional drawing practice to working self-sufficiently and exploring aesthetic notions in a variety of mediums: ink, pencil, charcoal, pen, pastel, markers, mixed media, etc.

- Traditionally rooted in narration, religion, and history the practice of **painting** is a mode of expression using different styles and mediums. Oil, acrylic, ink and mixed media are the tools to experiment with different painting styles and compositions. Painting at Haverford aims to guide students through the formative practices as well as encouraging exploration. The painting program is rigorous with intensive work and weekly student critiques. Students have classroom opportunity to work figuratively and paint from live models, work within the elements outside in Haverford’s sprawling landscape, and also encouraged to challenge and take ideas further conceptually. With distinguished guest artists and lecturers visiting
from other academic institutions, students are exposed to many views and interpretations of art making, inspiration, and the painting process.

- **Printmaking** is an interdisciplinary art form that has its own unique style as intaglio, lithography, relief, monotype, and silkscreen. Digital printmaking in lithography, intaglio, and silkscreen are taught along with traditional methods. Students are encouraged to combine printmaking with other mediums and extend their ideas from 2D to 3D including installation. Multi-media approaches are strongly recommended in advanced levels.

  Printmaking requires an intensive discipline. Patience is essential. Focus and attention are unavoidable. It is an art form based on chemistry and math. It has a long history that they must be aware of in order to create their own works. Furthermore, it is visual. No thoughts or philosophy can “be” a print even though it requires them all. Regardless of level, students are individual artists; they are respected to create their own work with an excellence in commitment that leads them to great achievements.

- The purpose of **photography** instruction at Haverford is to allow students to develop a personal body of work using photographic materials.

  A sequence of courses is offered from Foundation Photography for students with little or no knowledge to Advanced Photography in which students produce books and exhibitions. Emphasis is placed on producing photographs, which express both form and emotion through mastery of materials and acquisition of the intellectual and critical traditions of photography. The former is accomplished by technical critiques of student work in negative, digital and print formats. The latter is accomplished through reading and studying of the history of photograph, theory and criticism, photographic monographs and original prints.

  The facilities for the study of photography include up-to-date and well-equipped darkrooms for chemical and digital photography. The photography book collection in Magill Library is one of the finest in the country. The photographic print collection contains over 5,000 original photographs. It is encyclopedic and contains works from Hill and Adamson at the dawn of the beginning of photography to contemporary works by Andres Serrano and Laurie Simmons. These exceptional resources support small classes that allow for personal attention and instruction from the professor and staff.

- The **sculpture** concentration at Haverford offers students the opportunity to explore the three-dimensional media with a broad range of materials and processes. Classes are designed to engage the visual language through a process of critical analysis and discovery while providing a structured environment that allows students to acquire dexterity with a comprehensive set of three-dimensional skills. At the introductory level students are introduced to fundamental three-dimensional techniques and through sequential classes they gain proficiency in a skill set that culminates with sophisticated sculptural concepts and fabrication methods at the advanced level.

  The sculpture facilities include a wood shop, metal fabrication equipment, and a large-scale foundry for bronze casting. Students are introduced to wood and metal working techniques, modeling and casting skills, and digital fabrication methods. The sculpture concentration’s focus on conceptual investigation and in-depth technical education, in conjunction with well-equipped foundry facilities, provides students the setting to foster creativity and work through artistic curiosity.

**Coursework and Studio Work**

The 100-level “Introductory or Foundation” courses consist of half-semester courses. Although one half-semester is not sufficient for a beginning student to master a given medium, it offers ample time for acquiring a medium’s basic skills. In each discipline, the student learns to see and to coordinate his or her increasing skills of interpretation and expression to create individual art works.

The 200-level courses are “Materials and Techniques” courses. Having gained a solid basis from the foundation courses, the student chooses a medium to pursue in depth for a semester. At this level, we encourage the student to explore the
FINE ARTS

Various materials and their uses to create a refined and distinctive body of work. In the 300-level “Experimental Studio” courses, the student uses the acquired knowledge of materials and techniques to further express and broaden his or her artistic vision and ideas.

We encourage students to spend time on their own work outside of class in the fine arts building. Adjacent faculty studios encourage this informal contact, which is invaluable in learning the discipline of creating art. This type of contact and mentoring is an important aspect of a student’s education in our department.

MAJOR REQUIREMENTS
Fine Arts majors are required to concentrate in one of the following: drawing, painting, photography, printmaking, and sculpture, as detailed here:

- Four 100-level foundation courses in each discipline.
- Two different 200-level courses outside the area of concentration in the major.
- Two 200-level courses and one 300-level course within the student’s chosen focal area within Fine Arts.
- Three art history/theory/criticism or visual studies courses (as approved by major adviser).
- Senior Departmental Studies 499.
- For majors intending to do graduate work, we strongly recommend that they take an additional 300-level studio course within their area of concentration and an additional art history course at Bryn Mawr.

MINOR REQUIREMENTS
- Minors must take four 100-level foundation courses in different disciplines.
- Two 200-level courses and one 300-level course within the student’s chosen focal area within fine arts.
- One art history/theory/criticism or visual culture course.

SENIOR PROJECT
In preparation for the senior thesis exhibition students attend 499 Senior Departmental Studies (ARTSH 499A and 499B, prerequisite 300 course in student’s concentration such as drawing, painting, photography, printmaking, or sculpture) on a weekly basis. This two-semester, two-credit course provides students with a structured environment to develop a body of work that is presented in the form of an exhibition at the Cantor Fitzgerald Gallery. The scope of the senior thesis exhibition accomplishes the process of selecting works to be included in the exhibition, determining the layout of the works, and installing the works in the Cantor Fitzgerald Gallery. Students participate in the planning of the opening reception for their thesis exhibition, which is advertised to a broad audience. During the opening, they present their work to a general audience and are available to answer questions from guests. After the gallery opening, the Fine Arts Department faculty schedules a full departmental review of the work presented by each student. During the review each student articulates a formal presentation of her/his work and students are asked to respond to questions and comments put forth by the faculty.

Senior Project Learning Goals
Seniors are expected to create a coherent body of work that demonstrates proficiency in the use of their chosen concentration, develop content and articulate ideas with a personal and effective visual language and present their work in a professionally installed gallery exhibition, e.g. in the Cantor Fitzgerald Gallery, Atrium Gallery, or Alcove Gallery. In addition to presenting visual works, majors are expected to articulate the content and context of their work in a written statement, which is on display with their work along with researches on visual art and artists that are related to their own work. These educational goals are augmented by outside speakers, visiting artists, exhibitions and non-studio courses in visual culture sponsored by the department or taught by its faculty.

Senior Project Assessment
Each thesis project is evaluated by the Faculty members who are also their concentration advisers using the following categories:

- Original ideas and creativity.
- Proficiency in their chosen concentration.
- Quality of the project.
- Active discussion and participation during group critiques by departmental full faculty, which forms in the beginning, mid-term, and final week, and weekly group critique and research in addition to individual meetings with the faculty members.
- Progress in their project.
- Research on related sources, e.g. professional artist works and digital presentation.

Haverford College Catalog 2016-2017
FINE ARTS

- Statement of the project.
- Attendance.

STUDY ABROAD
Credits from Study Abroad or from Outside the Fine Arts Department
Majors can take one 200-level course outside of a major’s concentration and any art history/theory/criticism or visual culture courses, subject to approval by the chair of the Fine Arts Department before the course is taken.

Minors can take one 200-level course outside of a minor’s area of study and one art history/theory/criticism or visual culture courses, subject to approval by the chair of the Fine Arts Department before the course is taken.

FACILITIES
See the departmental web page for a description of art studios, galleries, and other special facilities for this program.

FACULTY
Hee Sook Kim
Chair and Associate Professor

Ying Li
Professor of Fine Arts

William Williams
Audrey A. and John L. Dusseau Professor in the Humanities and Curator of Photography

Markus Baenziger
Associate Professor

Christina Freeman
Visiting Assistant Professor

Jonathan Goodrich
Visiting Assistant Professor and Senior Thesis Coordinator

COURSES
ARTSH101 ARTS FOUNDATION-DRAWING (2-D)
Ying Li
A seven-week introductory course for students with little or no experience in drawing. Students will first learn how to see with a painter’s eye. Composition, perspective, proportion, light, form, picture plane and other fundamentals will be studied. We will work from live models, still life, landscape, imagination and masterwork. Humanities (HU)

ARTSH103 ARTS FOUNDATION-PHOTOGRAPHY
William Williams
This class also requires a two-hour workshop. The day and time of the workshop will be determined during the first class. Humanities (HU)

ARTSH104 ARTS FOUNDATION-SCULPTURE
Markus Baenziger
This is a seven week, half semester course designed to provide an introduction to three dimensional concepts and techniques. Skills associated with organizing and constructing three-dimensional form will be addressed through a series of projects within a contemporary context. The first projects will focus on basic three-dimensional concepts, while later projects will allow for greater individual self-expression and exploration. Various fabrication skills including construction, modeling, basic mold making, and casting will be demonstrated in class. All fabrication techniques will be covered in detail in class, and no prior experience is required to successfully complete this course. Important: ARTSH106 (Foundation Drawing 3D) is the first half of each semester and ARTSH104 (Foundation Sculpture) is the second half of each semester. Students interested in taking Foundation Sculpture must attend the first day of ARTSH106 Foundation Drawing to enter lotto for Foundation Sculpture. If unable to attend first class of the semester email the professor. Humanities (HU)

ARTSH106 ARTS FOUNDATION-DRAWING
Ying Li
Preference to declared majors who need Foundations, and to students who have entered the lottery for the same Foundations course at least once without success. Humanities (HU)

ARTSH107 ARTS FOUNDATION-PAINTING
Ying Li
A seven-week introductory course for students with little or no experience in painting. Students will be first introduced to the handling of basic tools, materials and techniques. We will study the color theory such as interaction of color, value & color, warms & cools, complementary colors, optical mixture, texture, surface quality. We will work from
live model, still life, landscape, imagination and masterwork. Humanities (HU)

ARTSH108 ARTS FOUNDATION-
PHOTOGRAPHY
William Williams
Humanities (HU)

ARTSH120 FOUNDATION PRINTMAKING:
SILKSCREEN
Hee Sook Kim
A seven-week course covering various techniques and approaches to silkscreen, including painterly monoprint, stencils, direct drawing and photo-silkscreen. Emphasizing the expressive potential of the medium to create a personal visual statement. Humanities (HU)

ARTSH121 FOUNDATION PRINTMAKING:
RELIEF PRINTING
Hee Sook Kim
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. Preference to declared majors who need Foundations, and to students who have entered the lottery for the same Foundations course at least once without success. Humanities (HU)

ARTSH123 FOUNDATION PRINTMAKING:
ETCHING
Hee Sook Kim
A seven-week course covering various techniques and approaches to intaglio printmaking including monotypes, soft and hard ground, line, aquatint, chine collage and viscosity printing. Emphasizing the expressive potential of the medium to create a personal visual statement. Prerequisite(s): preference to declared majors who need Foundations, and to students who have entered the lottery for the same Foundations course at least once without success; Humanities (HU)

ARTSH124 FOUNDATION PRINTMAKING:
MONOTYPE
Hee Sook Kim
Basic printmaking techniques in Monotype medium. Painterly methods, direct drawing, stencils, brayer techniques for beginners in printmaking will be taught. Color, form, shape, and composition in 2-D format will be explored. Humanities (HU)

Individual and group critiques will be employed. Humanities (HU)

ARTSH204 PICTURING WAR: GOYA TO PRESENT
Staff
An examination of aesthetic, social, political, psychological, and historical aspects of the visual representation of war. Media ranging from prints and photographs to sculpture and film from the beginning of the nineteenth century to the present day. Crosslisted: ICPR and PEAC; Humanities (HU)

ARTSH213 EXPERIMENTAL MEDIA:
THEORY, HISTORY, PRACTICE
John Muse
A study of experimental film, experimental video, and conceptual art, all of which have influenced our current media culture. Students will analyze the technical features of video, study themes that dominate the history of experimental film, and produce films and media installations. Crosslisted: ICPR; Humanities (HU)

ARTSH217 THE HISTORY OF AFRICAN-
AMERICAN ART FROM 1619 TO THE PRESENT
William Williams
A survey course documenting and interpreting the development and history of African-American art from 1619 to present day. Representative works from the art and rare book collections will supplement course readings. Humanities (HU)

EALCH218 CHINESE CALLIGRAPHY AS AN ART FORM
Ying Li
This course combines studio practice and creating art projects with slide lectures, readings, and museum visits. Students will study the art of Chinese Calligraphy, and its connection with Western art. No Chinese language required. Humanities (HU)

ARTSH223 PRINTMAKING: MATERIALS AND TECHNIQUES: ETCHING
Hee Sook Kim
Concepts and techniques of B/W & Color Intaglio. Line etching, aquatint, soft and hard ground, chine-colle techniques will be explored as well as visual concepts. Developing personal statements will be encouraged. Individual and group critiques will be employed. Humanities (HU)
**ARTSH224 COMPUTER AND PRINTMAKING**  
*Hee Sook Kim*

Computer-generated images and printmaking techniques. Students will create photographic, computer processed, and directly drawn images on lithographic polyester plates and zinc etching plates. Classwork will be divided between the computer lab and the printmaking studio to create images using both image processing software and traditional printmaking methods, including lithography, etching, and silk-screen. Broad experimental approaches to printmaking and computer techniques will be encouraged. Individual and group critiques will be employed. Humanities (HU)

**ARTSH225 LITHOGRAPHY: MATERIALS AND TECHNIQUES**  
*Hee Sook Kim*

An intermediate course covering B/W and Color Lithography in plates. Combined methods with other printmaking techniques such as Paper lithography and Monotype are explored during the course along with photographic approaches. Editioning of images is required along with experimental ones. Development of technical skills in traditional Lithography and personal visual study are necessary with successful creative solutions. A strong body of work following a specific theme is required. Individual discussions and group critiques are held periodically. Additional research on the history of printmaking is requested. Humanities (HU)

**ARTSH231 DRAWING (2-D): ALL MEDIA**  
*Jonathan Goodrich*

Students are encouraged to experiment with various drawing media and to explore the relationships between media, techniques and expression. Each student will strive to develop a personal approach to drawing while addressing fundamental issues of pictorial space, structure, scale, and rhythm. Students will work from observation, conceptual ideas and imagination. Course includes drawing projects, individual and group crits, slide lectures, museum and gallery visits. Humanities (HU)

**ARTSH233 PAINTING: MATERIALS AND TECHNIQUES**  
*Jonathan Goodrich*

Students are encouraged to experiment with various painting techniques and materials in order to develop a personal approach to self-expression. We will emphasize form, color, texture, and the relationship among them; influences of various techniques upon the expression of a work; the characteristics and limitations of different media. Students will work from observation, conceptual ideas and imagination. Course includes drawing projects, individual and group crits, slide lectures, museum and gallery visits. Prerequisite(s): Fine Arts Foundations or consent; Humanities (HU)

**ARTSH235 THE POST-IMPRESSIONISTS: CEZANNE, SEURAT, VAN GOGH, AND GAUGUIN**  
*Staff*

Using various art-historical approaches, this course focus on the works of major Post-Impressionist artists: Seurat, Cezanne, Van Gogh, and Gauguin. This course will include a field trip to the Barnes Foundation. Crosslisted: ICPR; Humanities (HU)

**ARTSH242 INTRODUCTION TO VISUAL STUDIES**  
*Staff*

An introduction to the trans-disciplinary field of Visual Studies, its methods of analysis and topical concerns. Traditional media and artifacts of art history and film theory, and also an examination of the ubiquity of images of all kinds, their systems of transmission, their points of consumption, and the very limits of visuality itself. Humanities (HU)

**ARTSH243 SCULPTURE: MATERIALS AND TECHNIQUES**  
*Markus Baenziger*

This course is designed to give students an in depth introduction to a comprehensive range of three-dimensional concepts and fabrication techniques. Emphasis will be on wood and metal working, and additional processes such as casting procedures for a range of synthetic materials and working with digital tools including a laser cutter and CNC equipment will be introduced in class. Course may be repeated for credit. Prerequisite(s): Fine Arts Foundations or consent; Humanities (HU)

**ARTSH251 PHOTOGRAPHY: MATERIALS AND TECHNIQUES**  
*Christina Freeman*

Students are encouraged to develop an individual approach to photography. Emphasis is placed on the creation of color photographic prints which express plastic form, emotions and ideas about the physical world. Work is critiqued weekly to give...
FINE ARTS

critical insights into editing of individual student work and the use of the appropriate black-and-white photographic materials in analog or digital formats necessary to give coherence to that work. Study of the photography collection, gallery and museum exhibitions, lectures and a critical analysis of photographic sequences in books and a research project supplement the weekly critiques. In addition students produce a handmade archival box to house their work, which is organized into a loose sequence and mounted to archival standards. Prerequisite(s): Fine Arts 103 or equivalent; Humanities (HU)

ARTSH321 EXPERIMENTAL STUDIO: ETCHING
Hee Sook Kim
An advanced course covers Color Etching using multiple plates. Viscosity printing, line etching, aquatint, soft-ground, surface roll, Chin-collè, plate preparation, registration, and editioning are covered. Students study techniques and concepts in Intaglio method as well as visual expressions through hands-on experiences. Development of technical skills of Intaglio and personal visual study are necessary and creative and experimental approaches beyond two-dimensional outcomes encouraged. A strong body of work following a specific theme is required. Individual discussions and group critiques are held periodically. Additional research on the history of printmaking is requested. Humanities (HU)

ARTSH325 CONTEMPORARY ART OF THE ARAB WORLD, IRAN AND TURKEY
Staff
This interdisciplinary course will consider aspects of contemporary art, architecture, and visual culture of North Africa and the Middle East and the other two principal non-Arab Muslim states in the region, Iran and Turkey. Prerequisite(s): one course in History of Art or Middle East and Islamic Studies; Crosslisted: ICPR; Humanities (HU)

ARTSH331 EXPERIMENTAL STUDIO: DRAWING (2-D)
Ying Li
Students will build on the work done in 200 level courses, to develop further their individual approach to drawing. Students are expected to create projects that demonstrate the unique character of drawing in making their own art. Completed projects will be exhibited at the end of semester. Class will include weekly crits, museum visits, visiting artists' lecture and crits. Each student will present a 15-minute slide talk and discussion of either their own work or the work of artists who influenced them. Humanities (HU)

ARTSH333 EXPERIMENTAL STUDIO: PAINTING
Ying Li
Students will build on the work done in 200 level courses to develop further their individual approach to painting. Students are expected to create projects that demonstrate the unique character of their chosen media in making their own art. Completed projects will be exhibited at the end of semester. Class will include weekly crits, museum visits, visiting artists' lecture and crits. Each student will present a 15-minute slide talk and discussion of either their own work or the work of artists who influenced them. Humanities (HU)

ARTSH343 EXPERIMENTAL STUDIO: SCULPTURE
Markus Baenziger
In this studio course the student is encouraged to experiment with ideas and techniques with the purpose of developing a personal expression. It is expected that the student will already have a sound knowledge of the craft and aesthetics of sculpture and is at a stage where personal expression has become possible. May be repeated for credit. Prerequisite(s): Fine Arts 243 A or B, or consent of instructor; Humanities (HU)

ARTSH351 EXPERIMENTAL STUDIO: PHOTOGRAPHY
William Williams
Students produce an extended sequence of their work in either book or exhibition format using black and white or color photographic materials. The sequence and scale of the photographic prints are determined by the nature of the student's work. Weekly classroom critiques, supplemented by an extensive investigation of classic photographic picture books and related critical texts guide students to the completion of their course work. This two semester course consists of the book project first semester and the exhibition project second semester. At the end of each semester the student may exhibit his/her project. Humanities (HU)

ARTSH499 SENIOR DEPARTMENTAL STUDIES
Hee Sook Kim
FINE ARTS

The student reviews the depth and extent of experience gained, and in so doing creates a coherent body of work expressive of the student’s insights and skills. At the end of the senior year the student is expected to produce a show of his or her work. Prerequisite(s): senior majors; Humanities (HU)
FRENCH AND FRANCOPHONE STUDIES
haverford.edu/french

The Bi-College (Bi-Co) French and Francophone Studies program at Haverford and Bryn Mawr is recognized as one of the top undergraduate French programs in the country. It offers a variety of courses and two options for the major. The major in French lays the foundation for an understanding and appreciation of French language and of French and Francophone cultures through their literatures and the history of their arts, thought, and institutions.

Course offerings serve those with particular interest in French and Francophone literature, literary theory, and criticism, as well as those with particular interest in studying France and French-speaking countries from an interdisciplinary perspective. A thorough knowledge of French is a common goal for both options, and texts and discussion in French are central to the program. The faculty teaches all courses in the program exclusively in French. Our courses adopt a variety of approaches, including literary studies, film and media studies, social history of ideas, and the study of politics and popular culture.

Our program is known for its rigor. Unlike at universities and Ivy League institutions, faculty rather than graduate students teach our undergraduates in French. Study abroad in France or in another Francophone country is an integral part of our students’ training. Virtually all majors spend one semester or a full year abroad (see below).

Often our graduates have chosen to double major, in political science, economics, anthropology, comparative literature, or in the natural sciences (chemistry, physics, and mathematics, most recently); some opt to minor or concentrate in a related field, such as art history or international economic relations.

LEARNING GOALS
The purpose of the academic program in French and Francophone Studies is foremost to lay the foundation for an understanding and appreciation of French and Francophone cultures as well as enable students to achieve an advanced level of linguistic and cultural fluency in French. These goals are achieved through a rigorous training in French language and a comprehensive study of French and Francophone literatures and cultures in courses where students sharpen their analytical skills, hone their ability to critique primary texts and engage scholarship pertinent to the field of French and Francophone Studies.

CURRICULUM
Majors and minors choose between:

• a literature concentration, with courses in periods, genres, thematic clusters, and individual authors, ranging from the Middle Ages to the most recent 21st-century texts; and
• an interdisciplinary concentration, with courses that cover the history of French civilization and particular problems of French and Francophone cultures, such as environmental issues and questions of identity.

Unless they have not previously studied French, all entering students (first-year and transfers) who wish to pursue their study of French must take a placement examination upon entrance to Haverford and Bryn Mawr. Those students who begin French have two options. They may study the language:

• In the intensive sections (the sequence FREN 001–002 of Intensive Elementary French, only at Bryn Mawr); or
• In the non-intensive sections (the sequence FREN 001–002 of Non-Intensive Elementary French, on both campuses).

At the intermediate level students also have the choice to study the language non-intensively (the sequence FREN 003–004), or intensively (FREN 005):

• FREN 003–004 (Non-Intensive Intermediate French) is a year-long course, requiring both semesters for credit. It is open to students who have taken FREN 001–002 or been placed by departmental examination.
• FREN 005 (Intensive Intermediate French):
  o Is open only to students who have been specially placed by the departmental placement exam or to students who have taken the year-long Intensive Elementary course (at Bryn Mawr only).
  o Requires its graduates to take FREN 102 (Introduction à l’analyse littéraire et...
FRENCH AND FRANCOPHONE STUDIES

culturelle II), or FREN 105 (Directions de la France contemporaine) in semester II for credit.
• FREN 003 and FREN 005 are only offered in the fall semester.

Although it is possible to major in French using either of the two sequences, we encourage students placed at the 001 level who are considering doing so to take the intensive option.

The 100-level courses introduce students to the study of French and Francophone literatures and cultures, and give special attention to the speaking and writing of French.

Courses at the 200 level treat French and Francophone literatures and civilizations from the beginning to the present day. Two 200-level courses are devoted to advanced language training, and one to the study of theory (FREN 213). Students who pursue French to the 200 level often find it useful to take as their first 200-level course, either FREN 212 (Grammaire avancée) or FREN 260 (Atelier d’écriture). You may not take both 212 and 260.

Advanced (300-level) courses offer detailed study either of individual authors, genres, and movements or of particular periods, themes, and problems in French and Francophone cultures. For both options, the departments admit students to advanced courses after satisfactory completion of two semesters of 200-level courses in French.

The Department of French and Francophone Studies also cooperates with the departments of Italian (only at Bryn Mawr) and Spanish in the Romance Languages Major at Bryn Mawr.

MAJOR REQUIREMENTS

Majors may choose a concentration in French and Francophone literature or interdisciplinary studies in French. Majors must acquire fluency in the French language, both written and oral. All majors must take FREN 212 or 260, or their equivalent, unless specifically exempted by the department.

French and Francophone Literature
• FREN 005–102 or 005–105; or FREN 101–102 or 101–105.
• FREN 212 or 260 (you may not take both).
• FREN 213 (Approches théoriques/Theory in Practice).
• Three semesters of 200-level literature courses.
• Two semesters of 300-level literature courses.
• The two-semester Senior Experience, comprised of:
  o Senior Conference in the fall semester.
  o In the spring semester, either a senior essay, written in the context of a third 300-level course, or a senior thesis. Both the senior thesis and essay include a final oral defense. (For details, see The Senior Project section.)

Interdisciplinary Studies in French
• FREN 005–102 or FREN 005–105; or FREN 101–102 or FREN 101–105.
• FREN 212 or 260 (you may not take both).
• Two 200-level courses within the French departments: e.g., FREN 255, 291, or 299.
• Two 200-level courses chosen by the student outside the French departments (at Haverford/Bryn Mawr or Junior Year Abroad) that contribute coherently to his/her independent program of study.
• FREN 325 or 326 (Études avancées de civilisation).
• Two 300-level courses outside the French departments.
• A thesis of one semester in French or English. (For details, see The Senior Project section.) Students interested in this option must present the rationale and the projected content of their program for departmental approval during their sophomore year; they should have strong records in French and the other subjects involved in their proposed program.

MINOR REQUIREMENTS

• FREN 005–102 or 005–105; or FREN 101–102 or 101–105.
• FREN 212 or 260 (you may not take both).
• Four courses at the 200 and 300 levels. At least one course must be at the 300 level.

SENIOR PROJECT

The Department of French and Francophone Studies offers two tracks in the major: the French and Francophone Literature track and the Interdisciplinary Studies in French track.

Literature Track:
In the fall semester of the senior year, students majoring in the literature track take FREN 398 (Senior Conference). Senior Conference usually focuses on three texts, one theoretical and two
primary texts. Particular attention is paid to research techniques, the assembling of a bibliography, and the types of resources and critical perspectives that constitute and legitimate an advanced research project.

After taking Senior Conference students have two options for the spring semester: they may write a thesis (30-40 pages) under the direction of a faculty member, or they may write an essay (15-20 pages) in the context of a 300-level course. The first option allows students who have already developed a clearly defined subject in the fall semester to pursue independent research and the writing of a thesis with a faculty supervisor.

The second option offers students the opportunity to produce a substantial, but shorter, piece of research within the structure of their 300-level course in the spring semester. Those writing a senior essay do all the readings assigned in the course plus additional readings (identified during research and specifically attached to the individual project). They do not complete the regular written assignments for the course. Instead, the final 15-20 page paper constitutes the writing portion of the grade for the course, as well as the senior project. In order to move research along, students are expected to have done all the assigned reading for the course by spring break.

Interdisciplinary Track:
Students working in the interdisciplinary track are exempt from taking the Senior Conference but may find it useful to do so to help with the writing process of the mandatory spring semester thesis. In this track the student generally combines a discipline from outside of French with an issue relevant to the French or Francophone world. The thesis, which can be written in English or French, is followed by an oral exam.

The thesis advisers are from a) French and b) from the other discipline chosen. Ideally, the student chooses her subject in the second semester of junior year, identifies her advisers and start discussing her project with them. Discussion continues in the fall of senior year with the expectation that the student submit a thesis proposal by the end of the term. Students in this track follow a similar timeline as the ones in the literature track.

**Senior Project Learning Goals**
At the end of their career at Haverford, we expect our students to have achieved an extensive appreciation of French and Francophone literatures and cultures as well as an advanced level of linguistic and cultural fluency in French. We also require that they demonstrate the capacity to analyze a text and critically engage it in a sustained fashion, formulate an argument and present it intelligibly in both oral and written form. Whether writing a thesis or a senior paper they must show that they can conduct research efficiently.

**Senior Project Assessment**
Both Senior Thesis and Senior Essay include a final oral defense lasting thirty minutes. At this time, the student is expected to speak with authority about the research, the writing process, and some of the intellectual ramifications of the work accomplished.

Students receive a single grade for the Senior Project. The grade for both options is calculated according to the following formula: FREN 398 [Senior Conference] (40%) + spring 300-level course or spring thesis + oral defense (60%). Assessment of students’ work in 398 (fall semester) is the sole responsibility of the instructor whereas students’ spring work (thesis or essay) is assessed by the first and second readers.

**REQUIREMENTS FOR HONORS**
Students with a GPA of 3.7 or above are usually recommended for departmental honors.

**RELATED PROGRAMS**
**French Teacher Certification**
The Department of French and Francophone Studies offers a certification program in secondary teacher education. For more information, see the description of the Education Program.

**French A.B./M.A. Program**
Particularly well-qualified students may undertake work toward the joint A.B./M.A. degree in French. Students may complete such a program in four or five years and undertake it with the approval of the department and of the dean of Bryn Mawr’s Graduate School of Arts and Sciences.

**STUDY ABROAD**
Students minoring or majoring in French may, by a joint recommendation of the deans of the colleges and the department of French, be allowed to spend
one or two semesters of their junior year in France or in another Francophone country under one of the junior year programs approved by the College.

Most French majors either study abroad or apply to spend their sophomore or junior summer at the Institut d’Etudes Françaises d’Avignon, held under the auspices of Bryn Mawr. The Institute is designed for selected undergraduate and graduate students who anticipate professional careers requiring knowledge of the language and civilization of France and French-speaking countries. The curriculum includes general and advanced courses in French language, literature, social sciences, history, art, and economics (including the possibility of internships in Avignon). 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.

FACULTY
At Haverford:
Koffi Anyinefa (on leave Fall 2016)
Professor

Kathryne Corbin (on leave 2016-17)
Lecturer

David Sedley
Associate Professor and Chair

Monique Laird
Visiting Lecturer

Christophe Corbin
Visiting Assistant Professor

Corine Ragueneau Wells
Visiting Lecturer

At Bryn Mawr:
Grace M. Armstrong
Eunice Morgan Schenck 1907 Professor; Professor and major adviser

Brigitte Mahuzier
Chair and Professor

Rudy Le Menthéour
Associate Professor and Director of the Avignon Institute

Agnès Peysson-Zeiss
Lecturer

Julien Suaudeau
Lecturer

Marie Sanquer
Visiting Lecturer

COURSES
FRENH001 ELEMENTARY FRENCH
Staff
The speaking and understanding of French are emphasized particularly during the first semester. The work includes regular use of the Language Learning Center and is supplemented by intensive oral practice sessions. The course meets in intensive (nine hours each week) and non-intensive (five hours each week) sections. This is a year-long course; both semesters (001 and 002) are required for credit. Humanities (HU)

FRENH002 ELEMENTARY FRENCH NON INTENSIVE
Corine Ragueneau Wells
The speaking and understanding of French are emphasized particularly during the first semester. The work includes regular use of the Language Learning Center and is supplemented by intensive oral practice sessions. The course meets in intensive (nine hours each week) and non-intensive (five hours each week) sections. This is a year-long course; both semesters (001 and 002) are required for credit. Humanities (HU)

FRENH003 INTERMEDIATE FRENCH NON INTENSIVE
Staff
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 Learning Center regularly and attend supplementary oral practice sessions. The course meets in non-intensive (three hours each week) sections that are supplemented by an extra hour per week with an assistant. This is a year-long course; both semesters (003 and 004) are required for credit. Humanities (HU)

FRENH004 INTERMEDIATE FRENCH
Staff
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 Learning Center regularly and attend supplementary oral practice sessions. The course meets in non-intensive (three hours each week) sections that are supplemented by an extra hour per week with an assistant. This is a year-long course; both semesters (003 and 004) are required for credit. Humanities (HU)

**FRENH005 INTENSIVE INTERMEDIATE FRENCH**  
*Koffi Anyinéfa*  
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 Learning Center regularly. This course prepares students to take 102 or 105 in the second semester. Open only to graduates of Intensive Elementary French or to students specially placed by the department. Students who are not graduates of Intensive Elementary must take either 102 or 105 in Semester II to receive credit. Humanities (HU)

**FRENH101 INTRODUCTION A L'ANALYSE LITTERAIRE ET CULTURELLE I**  
*Staff*  
Presentation of essential problems in literary and cultural analysis by close reading of works selected from various periods and genres and by analysis of voice and image in French writing and film. Participation in discussion and practice in written and oral expression are emphasized, as are grammar review and laboratory exercises. Open only to graduates of Intermediate French or to students specially placed by the department. Humanities (HU)

**FRENH102 INTRODUCTION A L'ANALYSE LITTERAIRE ET CULTURELLE II**  
*David Sedley*  
Continued development of students' expertise in literary and cultural analysis by emphasizing close reading as well as oral and written analyses of works chosen from various genres and periods of French/ Francophone works in their written and visual modes. Readings begin with comic theatre of the seventeenth and eighteenth centuries and build to increasingly complex nouvelles, poetry, and novels of the nineteenth and twentieth centuries. Participation in guided discussion and practice in oral/written expression continue to be emphasized, as are grammar review and laboratory exercises. Offered in second semester. Prerequisite(s): FREN 005, 101, or 103; Humanities (HU)

**FRENH105 DIRECTIONS DE LA FRANCE CONTEMPORAINE**  
*Koffi Anyinéfa*  
An examination of contemporary society in France and Francophone cultures as portrayed in recent documents 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 the second semester. Prerequisite(s): FREN 005, 101, or 103; Humanities (HU)

**FRENH202 CULTURE, FRANCE, RENAISSANCE**  
*David Sedley*  
The topic of this course is not only sixteenth-century French culture but also the development of the basic elements that the idea of “French culture” presupposes: that of culture and that of France. How did these notions come about, and how were they joined into one entity? We will study this peculiar process, fundamental to Western modernity, by taking into account a series of Renaissance masterpieces in various genres (novel, story, essay, poetry, painting, architecture) as well as critical perspectives of our own era. Through this exploration, we will attempt to understand how new senses of identity, on national as well as individual levels (France and the self), took shape in a context of political and religious fragmentation (civil war and Reformation). Humanities (HU)

**FRENH203 PASSION ET CULTURE: LE GRAND SIÈCLE**  
*David Sedley*  
Representative authors and literary movements placed within their cultural context, with special attention to development of the theater (Corneille, Molière, and Racine) and women writers of various genres. Humanities (HU)
FRENH212 GRAMMAIRE AVANCEE: COMPOSITION ET CONVERSATION
*Staff*
A general review of the most common difficulties of the French language. Practice in composition, translation, and conversation. Humanities (HU)

FRENH250 INTRODUCTION A LA LITTERATURE FRANCOPHONE
*Staff*

FRENH255 CINEMA FRANÇAIS/FRANCOPHONE ET COLONIALISME
*Koffi Anyinefa*
Fulfills Social Justice. A study of French and Francophone films dealing with the colonial and post-colonial experience. Crosslisted: Comparative Literature; Humanities (HU)

FRENH312 ADVANCED TOPICS IN FRENCH LITERATURE: MONTAIGNE, FAITS ET FICTIONS
*David Sedley, Koffi Anyinefa*
This seminar is dedicated to the study of Michel de Montaigne (1533-1592), an author whose importance in French compares to that of Shakespeare in English. Montaigne's masterpiece, *Les Essais*, has special relevance today: as its title suggests, it originates an instrument by which we conduct inquiry in the humanities and social sciences as well as a organ of personal and literary expression—the "essay." We will explore the meanings of those inventions, in addition to patterns of thought that Montaigne's essays absorb, reform, and transmit to modern culture, in particular a cluster of diverse but interrelated distinctions between woman and man, words and things, life and death, self and other, war and civility, and fiction and fact. In French. Crosslisted: Comparative Literature; Humanities (HU)

FRENH312 PASCAL ENTRE LES DISCIPLINES
*David Sedley, Koffi Anyinefa*
Contrary to what one may think, the notion of "interdisciplinarity" has a long history. In this history, the career of Blaise Pascal represents a high point. This course examines the achievements of Pascal as mathematician, physicist, engineer, entrepreneur, theologian, philosopher, and literary genius through his works as well as criticism, theory, and film. This examination will illuminate why transgressing frontiers between disciplines matters so much—and why it has become so difficult to do. Taught in French. Prerequisite(s): a 200-level French course, excluding 212; Humanities (HU)

FRENH398 SENIOR CONFERENCE
*David Sedley*
A weekly seminar examining representative French and Francophone literary texts and cultural documents from all periods, and the interpretive problems they raise. Close reading and dissection of texts, complemented by extensive secondary readings from different schools of interpretation, prepare students to analyze others critical stances and to develop their own. In addition to short essays and oral presentations, students write a long paper each semester and end the year with Senior Comprehensives, which consist of an oral explication of a French literary text or cultural document and a four-hour written examination. Humanities (HU)

FRENH399 SENIOR THESIS
*Koffi Anyinefa*
Humanities (HU)
The Program in Gender and Sexuality is an interdisciplinary Bi-College program that can be integrated with certain majors or pursued independently. Students graduate from the program with a high level of fluency and rigor in their understanding of the different ways issues of gender and sexuality shape our lives as individuals and as members of larger communities, both local and global.

The program offers several different options. Students majoring in certain disciplines may complete a concentration Gender and Sexuality Studies via Haverford College. Students majoring in any discipline can complete a minor in Gender and Sexuality via Bryn Mawr College. The details of these programs are described in detail below. Students at either campus can petition with the special committee on their respective home campus (CSSP at Haverford and the Committee on Independent Majors at Bryn Mawr) to design an Independent Major in Gender and Sexuality Studies.

**LEARNING GOALS**

Students in the Program in Gender and Sexuality will:

- understand how social hierarchies related to gender, sexuality, race, and ethnicity have developed historically, cross-culturally, and transnationally.
- develop a high level of fluency and rigor in understanding how issues of gender and sexuality shape our lives as individuals and as members of larger communities, both local and global.
- gain competence in applying theory to practical experience for social transformation and citizenship.
- become critically conversant with theories of gender and sexuality, and their intersectionality with issues of race and class.
- draw upon and speak to feminist theory; women’s studies; transnational and third-world feminisms; womanist theory and the experiences of women of color; the construction of masculinity and men’s studies; lesbian, gay, bisexual, queer, and transgender studies; and theories of gender as inflected by class, race, religion, and nationality.

**CURRICULUM**

Students choosing a concentration (via Haverford, in association with certain majors), minor (via Bryn Mawr, regardless of major) or independent major in gender and sexuality plan their programs in consultation with the Gender and Sexuality coordinator on their home campus. Members of the Gender and Sexuality steering committee serve as their individual mentors. All students in the program take the core course, “Interdisciplinary Perspectives on Sex and Gender.” Other courses in the program allow them to explore a range of approaches to gender and sexual difference: critical feminist theory; women’s studies; transnational and third world feminisms; the experiences of women of color; gender and science; the construction of masculinity; gay, lesbian, queer, transgender, and transsexual studies; the history and representation of gender and sexuality in a global context.

**MAJOR REQUIREMENTS**

Students wishing to construct an independent major in Gender and Sexuality Studies should file a petition with the Committee on Student Standing and Programs (Haverford College) or make a proposal to the Committee on Independent Majors (Bryn Mawr College).

**MINOR REQUIREMENTS**

Six courses distributed as follows are required for the minor at Bryn Mawr College:

- An introductory course (including equivalent offerings at Swarthmore College or the University of Pennsylvania).
- The junior seminar: Interdisciplinary Perspectives on Sex and Gender (alternating fall semesters between Bryn Mawr and Haverford).
- Four additional approved courses from at least two different departments, two of which are normally at the 300 level. Units of Independent Study (480) may be used to fulfill this requirement.

**CONCENTRATION REQUIREMENTS**

Six courses distributed as follows are required for the concentration at Haverford College:
• An introductory course (including equivalent offerings at Swarthmore College or the University of Pennsylvania).
• The junior seminar: Interdisciplinary Perspectives on Sex and Gender (alternating fall semesters between Bryn Mawr and Haverford).
• Four additional approved courses from at least two different departments, two of which are normally at the 300 level. Units of Independent Study (480) may be used to fulfill this requirement.
• Of the six courses, no fewer than two and no more than three will also form part of the student’s major.

Neither a senior seminar nor a senior thesis is required for the concentration or minor; however, with the permission of the major department, a student may choose to count toward the concentration a senior thesis with significant content in gender and sexuality.

STEERING COMMITTEE
At Bryn Mawr
Gregory Davis
Associate Professor of Biology

Hoang Nguyen
Associate Professor of English and Film Studies

H. Rosi Song
Associate Professor of Spanish, Acting Director of Gender and Sexuality Studies at Bryn Mawr

Sharon Ullman (on leave Fall 2016)
Professor of History

At Haverford
Anne Balay
Coordinator of Gender and Sexuality Studies at Haverford

Anne McGuire
Associate Professor of Religion

Gus Stadler
Associate Professor of English

Susanna Wing
Associate Professor of Political Science

COURSES

ANTH 200 VIRUSES, HUMANS, VITAL POLITICS: AN ANTHROPOLOGY OF HIV & AIDS

ANTH 212 FEMINIST ETHNOGRAPHY

ANTH 214 RACE, CRIME & SEXUALITY

COML 334 GENDER DISSIDENCE IN HISPANIC WRITING

ENGL 228 TOPICS IN EARLY MODERN LITERATURE: VIRTUE, VICE, AND PROFIT

ENGL 269 LOVE AND SEX: QUEERNESS IN THE AMERICAN NOVEL 1850-1950

ENVS 172 ECOLOGICAL IMAGINARIES: IDENTITY, VIOLENCE, AND THE ENVIRONMENT

HLTH 225 BRING YOUR OWN BODY: TRANSGENDER BETWEEN ARCHIVES AND AESTHETICS

ICPR 290 INTERDISCIPLINARY PERSPECTIVES ON GENDER

ICPR 313 SOCIAL JUSTICE: A WORKSHOP ON ETHICS AND SOCIAL CHANGE

PEAC 318 GENDER AND ETHICS OF GLOBAL DEVELOPMENT

POLS 242 WOMEN IN WAR AND PEACE

POLS 282 INEQUALITY AND PUBLIC POLICY

RELG 258 GENDER AND POWER IN MODERN JEWISH AND CHRISTIAN THOUGHT

SPAN 334 GENDER DISSIDENCE IN HISPANIC WRITING
GENDER AND SEXUALITY STUDIES

WRPR 109 PERSPECTIVES ON IMMIGRATION AND EDUCATION IN THE UNITED STATES

WRPR 118 PORTRAITS OF DISABILITY AND DIFFERENCE
Students may complete a major or minor in Geology. Within the major, students may complete a concentration in geoarchaeology.

The department seeks to give students a well-rounded earth science education that balances fundamental knowledge of geology with broadly applicable problem-solving and communication skills. The integrated science of geology combines biology, chemistry and physics as they apply to the workings of Earth and other planets. Well-trained geoscientists are increasingly in demand to address the environmental challenges and natural resource limitations of the modern world. A central tenet for understanding and predicting Earth processes and environmental change is the ability to decipher past Earth history from geologic records. Thus the major in Geology includes study of the physics and chemistry of Earth materials and processes; the history of the Earth and its organisms; and the range of techniques used to investigate the past and present workings of the Earth system. Field and lab experiences are essential parts of geology training, and at Bryn Mawr field trips and lab work are part of all introductory courses, most other classes, and most independent research projects.

**MAJOR REQUIREMENTS**

Thirteen courses are required for the major: GEOL 101 and 102 or 103; 202, 203, 204, and 205; at least two semesters of quantitative or computational coursework, e.g., MATH 101 and 102 or alternates approved by the adviser; a two semester sequence of CHEM (103-104) or PHYS (101-102 or 121-122); GEOL 399; and either two advanced geology courses or one advanced geology course and an additional upper-level course in biology, chemistry, mathematics, physics, or computer science. The writing requirement for the major in Geology is fulfilled in GEOL 203. This course includes a semester-long research project culminating in a scientific manuscript based on material collected in the field by enrolled students.

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 participate in a senior capstone experience (GEOL 399), which is structured into a two-semester seminar that meets weekly for 1.5 hours for a total of 1.0 credit (0.5 credits per semester). The focus of the capstone seminar is to reinforce students' ability to address geoscience questions and to communicate their findings in writing and orally. The team-taught senior seminar integrates the student's major curriculum with weekly speakers or peer-led discussions on cutting edge research, and the impact and relevance of geology to modern society.

**MINOR REQUIREMENTS**

A minor in Geology consists of two 100-level Geology courses, and any four of the 200- or 300-level courses offered by the department. Two 0.5 credit courses may be combined to count toward one of the 100-level courses. Alternatively, an additional 200- or 300-level course may be substituted for one of the 100-level courses to meet the minor requirements.

**THESIS**

At the discretion of the department faculty, rising seniors may undertake an independent thesis project (GEOL 403) in addition to mandatory full participation in the Senior Capstone Seminar (GEOL 399). Student thesis projects must be supervised by a faculty adviser. The senior thesis is modeled after a Master’s thesis project, but is scaled down for the different time frame (one year versus two years) and educational level of a senior undergraduate student. The thesis project plan is initially developed and agreed upon through consultation between the supervising faculty member(s) and the student. Most of the research is conducted independently by the student. The adviser serves as a source of ideas concerning scientific literature, methodologies and project support. The adviser may visit and inspect the research sites, laboratory or model, and offer advice on how the research should be conducted or modified.

If approved to undertake a senior thesis, a student will enroll in GEOL 403 each of her final two semesters for a total of 1.0 credit (0.5 credits per semester). The thesis option adds the equivalent of one course to the standard Geology major.
requirements. The first semester will focus on thesis topic formulation, background research and initiation of appropriate data acquisition. At the end of the first semester, the student must submit a formal written project proposal to department faculty members. This research proposal must demonstrate the student’s ability to successfully complete her thesis during the following semester. Following review of submitted proposals, students or faculty members may choose or recommend, respectively, not to complete the independent thesis, in which case the student would not enroll for the second semester of GEOL 403.

CONCENTRATION IN GEOARCHAEOLOGY
The Departments of Anthropology, Classical and Near Eastern Archaeology, and Geology offer a concentration in geoarchaeology for existing majors in these departments. Please consult with Professor Magee regarding this program. Please note that these requirements are separate from those for the major and cannot be double counted. Requirements for the concentration:

1. Two 100-level units from Anthropology, Classical and Near Eastern Archaeology (including ARCH 135, a half-credit course) or Geology, of which one must be from the department outside the student’s major.
2. ANTH/ARCH/GEOL 270: Geoarchaeology (Magee, Barber).
3. BIOL/ARCH/GEOL 328: Geospatial Data Analysis and GIS (staff).
4. Two elective courses, to be chosen in consultation with the major adviser, from among current offerings in Anthropology, Classical and Near Eastern Archaeology and Geology. One of these two courses must be from outside the student’s major. Suggested courses include but are not limited to ARCH 135 (HALF-CREDIT: Archaeological Fieldwork and Methods), ANTH 203 (Human Ecology), ANTH 220 (Methods and Theory), ARCH 330 (History of Archaeology and Theory), ANTH 225 (Paleolithic Archaeology), ANTH 240 (Traditional Technologies), ARCH 308 (Ceramic Analysis), ARCH 332 (Field Techniques), GEOL 202 (Mineralogy), GEOL 205 (Sedimentology), GEOL 310 (Geophysics), and GEOL 312 (Quaternary Climates).

HONORS
Honors are awarded to students who have outstanding academic records in Geology and allied fields, and whose research is judged by the faculty of the department to be of the highest quality.

FACULTY
Don Barber  
Associate Professor of Geology on the Harold Alderfer Chair in Environmental Studies

Selby Cull-Hearth  
Assistant Professor of Geology

Pedro Marenco  
Associate Professor of Geology

Arlo Weil  
Chair and Professor of Geology

COURSES
GEOL B101 HOW THE EARTH WORKS
Pedro Marenco, Selby Cull-Hearth
An introduction to the study of planet Earth—the materials of which it is made, the forces that shape its surface and interior, the relationship of geological processes to people, and the application of geological knowledge to the search for useful materials. Laboratory and fieldwork focus on learning the tools for geological investigations and applying them to the local area and selected areas around the world. Three lectures and one afternoon of laboratory or fieldwork a week. One required one-day field trip on a weekend. Approach: Quantitative Readiness Required (QR); Scientific Investigation (SI). Units: 1.0. Not Offered 2016-2017

GEOL B102 EARTH: LIFE OF A PLANET
Staff
The history of the Earth from its beginning, including its climate and tectonic history and the evolution of the living forms that have populated it. Three lectures, one afternoon of laboratory a week. A required two-day (Sat-Sun) field trip is taken in April. Approach: Scientific Investigation (SI). Units: 1.0. Not Offered 2016-2017

GEOL B103 EARTH SYSTEMS AND THE ENVIRONMENT
Staff
This integrated approach to studying the Earth
GEOL B110 FOCUS: EXPLORING TOPICS IN THE EARTH SCIENCES
Selby Cull-Hearth
This is a half-semester focus course. Approach: Scientific Investigation (SI)
Units: 0.5
Spring 2017: Exploring Mars. In this half-semester class, we'll examine the latest data from the two Mars rovers currently operating on the surface, as well as satellite data from the many NASA and international missions in orbit around Mars right now. We'll explore what we know about the geologic history of Mars, including the presence of past water, and the potential for past life.

GEOL B125 FOCUS: GEOLOGY IN FILM
Pedro Marenco
This is a half semester Focus course. Geologic processes make for great film storylines, but filmmakers take great liberty with how they depict scientific “facts” and scientists. We will explore how and why filmmakers choose to deviate from science reality. We will study and view one film per week and discuss its issues from a geologist's perspective. Approach: Course does not meet an Approach Counts towards: Film Studies. Units: 0.5. (Spring 2017)

GEOL B202 MINERALOGY AND CRYSTAL CHEMISTRY
Selby Cull-Hearth
The crystal chemistry of representative minerals as well as the relationship between the physical properties of minerals and their structures and chemical compositions. Emphasis is placed on mineral identification and interpretation. The occurrence and petrography of typical mineral associations and rocks is also covered. Lecture three hours, laboratory at least three hours a week. One required field trip on a weekend. Prerequisite(s): introductory course in Geology or Chemistry (both recommended, one required).

Approach: Quantitative Readiness Required (QR); Scientific Investigation (SI). Units: 1.0. (Fall 2016)

GEOL B203 INVERTEBRATE PALEOBIOLOGY
Pedro Marenco
We will explore how the Earth-life system has evolved through time by studying the interactions between life, climate, and tectonic processes. During the lab component of the course, we will study important fossil groups to better understand their paleoecology and roles in the Earth-life system. Approach: Scientific Investigation (SI) Major Writing Requirement: Writing Intensive Counts towards: Environmental Studies Units: 1.0. (Fall 2016)

GEOL B204 STRUCTURAL GEOLOGY
Arlo Weil
An introduction to the study of rock deformation in the Earth’s lithosphere viewed from all scales - from the microscopic (atomic scale) to the macroscopic (continental scale). This class focuses on building a foundation of knowledge and understanding that will allow students to broaden their appreciation and understanding of the complexity of the Earth system and the links between geologic structures at all scales and plate tectonics. Three lectures and three hours of laboratory a week, plus a required three-day, weekend field trip. Prerequisite(s): GEOL 101 and MATH 101. Approach: Quantitative Readiness Required (QR). Units: 1.0. (Spring 2017)

GEOL B205 SEDIMENTARY MATERIALS AND ENVIRONMENTS
Don Barber
An introduction to sediment transport, depositional processes, and stratigraphic analysis, with emphasis on interpretation of sedimentary sequences and the reconstruction of past environments. Three lectures and one lab a week, plus a one-day field trip. Prerequisite(s): GEOL 101, 102, or 103 or permission of instructor. Recommended: GEOL B202 and B203. Approach: Course does not meet an Approach Counts towards: Environmental Studies Units: 1.0. (Spring 2017)

GEOL B206 ENERGY RESOURCES AND SUSTAINABILITY
Don Barber
An examination of issues concerning the supply of energy required by humanity. This includes an

GEOL B209 NATURAL HAZARDS
Staff
A quantitative approach to understanding the earth processes that impact human societies. We consider the past, current, and future hazards presented by geologic processes, including earthquakes, volcanoes, landslides, floods, and hurricanes. The course includes discussion of the social, economic, and policy contexts within which natural geologic processes become hazards. Case studies are drawn from contemporary and ancient societies. Lecture three hours a week. Prerequisite(s): one semester of college science or permission of instructor. Approach: Quantitative Methods (QM); Quantitative Readiness Required (QR). Counts towards: Environmental Studies. Units: 1.0. (Not Offered 2016-2017)

GEOL B260 ORIGIN STORIES: FROM THE BIG BANG TO MOTHER EARTH
Arlo Weil, Mary Schulz
This is a co-taught intermediate science course, instructed by a Geology and Physics professor, that will focus on the core scientific principals related to Cosmology, Physics and Geology that help address fundamental questions regarding the origin of the Universe, the origin of time, the origin of stars and our own solar system, and the origin of Earth, its atmosphere, hydrosphere and biosphere. The course will be a mix of fundamental scientific principles used to scaffold a deeper understanding of how scientists have come to understand and question stories of origin. Group discussions will be informed by close reading of scientific texts, and occasional problem sets. Approach: Scientific Investigation (SI). Units: 1.0. (Fall 2016)

GEOL B299 GEOLOGY FIELD SHORT COURSE
Arlo Weil
Geology majors choosing to participate in the annual Fall—or Spring—Break Geology Department Field Trip must enroll in GEOL B299. Enrollment in this class does not guarantee a spot on the field trip. Several pre-trip class meetings help maximize student engagement on the trip by providing a forum for discussing the assigned readings. During the week-long field trip, students are exposed to geologic field methods while visiting sites that exemplify different geology from that at sites near campus. Geologic methods introduced include proper field note-taking, mapping and measuring geologic structures, and interpreting geologic history. Culminating work introduces students to geologic illustration and report writing. A passing grade requires full participation and engagement by the student before, during and after the field trip. At least one post-trip meeting is held on campus to synthesize the material covered, and to go over students’ final reports. Prerequisite(s): GEOL B101, B102 or B103; and GEOL B202, B203, B204 or B205. Approach: Scientific Investigation (SI). Units: 0.5. (Spring 2017)

GEOL B301 HIGH-TEMPERATURE GEOCHEMISTRY
Staff
Principles and theory of various aspects of geochemistry in rock systems, focusing on applications of chemistry to the study of igneous and metamorphic rocks. Three hours of lecture per week. Prerequisite(s): GEOL 101 or GEOL 102, and at least one semester of chemistry or physics, or professor approval. Counts towards: Environmental Studies. Units: 1.0. (Not Offered 2016-2017)

GEOL B302 LOW-TEMPERATURE GEOCHEMISTRY
Staff
Stable isotope geochemistry is one of the most important subfields of the Earth sciences for understanding environmental and climatic change. In this course, we will explore stable isotopic fundamentals and applications including a number of important case studies from the recent and deep time dealing with important biotic events in the fossil record and major climate changes. Prerequisite(s): GEOL 101 or GEOL 102, and at least one semester of chemistry or physics, or professor approval. Counts towards: Environmental Studies. Units: 1.0. (Not Offered 2016-2017)

GEOL B304 TECTONICS
Arlo Weil
Plate tectonics and continental orogeny are reviewed in light of the geologic record in selected mountain ranges and certain geophysical data.
Three hours of lecture and a problem session a week. Prerequisite(s): GEOL 204 or permission of instructor. Units: 1.0. (Fall 2016)

**GEOL B305 IGNEOUS AND METAMORPHIC PETROLOGY**

*Staff*

The study of igneous and metamorphic rocks, including their origins and modes of occurrence. The focus is on understanding how these rocks form, and on applying a combination of field methods, laboratory techniques, and theoretical understanding to interpret the origins of igneous and metamorphic rocks. The class will build on the study of mineralogy by examining assemblages of coexisting minerals, and what those assemblages reveal about the pressure, temperature, and chemical conditions under which a rock must have formed. For a culminating term project we will conduct an intensive study of local metamorphic rocks. Three lecture hours weekly and one weekly lab. One weekend field trip. Prerequisite(s): GEOL 202. Units: 1.0. (Not Offered 2016-2017)

**GEOL B310 INTRODUCTION TO GEOPHYSICS**

*Staff*

An overview covering how geophysical observations of the Earth’s magnetic field, gravity field, heat flow, radioactivity, and seismic waves provide a means to study plate tectonics and the earth’s interior. Three class hours a week with weekly problem sets. Prerequisite(s): one year of college physics or with permission of professor. Units: 1.0. (Not Offered 2016-2017)

**GEOL B314 MARINE GEOLOGY**

*Staff*

An introduction to oceanography, coastal processes, and the geomorphology of temperate and tropical shorelines. Includes an overview of the many parameters, including sea level change, that shape coastal environments. Meets twice weekly for a combination of lecture, discussion and hands-on exercises, including a mandatory multi-day field trip to investigate developed and pristine sections of the Mid-Atlantic US coast. Prerequisite(s): one 200-level GEOL course OR one GEOL course AND one BIOL course (any level), OR advanced BIOL major standing (junior or senior). Counts towards: Environmental Studies. Units: 1.0. (Not Offered 2016-2017)

**GEOL B350 ADVANCED TOPICS IN GEOLOGY**

*Staff*

This is a topics course. Course content varies. Recent topics include Carbonate Petrology, Appalachian Geology, Advanced Evolution, The Snowball Controversy, and Climate Change. Units: 1.0

**Fall 2016: Seminal Ideas in Earth Science.** Investigation of the seminal ideas published over the past 150 years that led modern Geology. Topics include radiogenic heat, isotopic age dating, isostasy, plate tectonics, seismic sequence stratigraphy, atmospheric CO2 & climate, evolution and mass extinctions. Students read primary literature articles chosen to explore the scientific origins of these fundamental ideas. Weekly readings are the basis for in-class discussions.

**Spring 2017: Acid Mine Drainage Systems.** Acid Mine Drainage is a consequence of mining, affecting streams and ecosystems miles from the abandoned mines that cause it. In this class, we’ll examine several AMD systems in Pennsylvania, visiting the mines, sampling the AMD run-off, and analyzing our samples using Bryn Mawr’s geochemistry tools. We’ll discuss the mineral alteration processes that lead to these deposits, and the consequences they can have for local communities and ecosystems. Prerequisite GEOL 202.

**Spring 2017: Carbonate Environments.** Students will study Earth’s changing environments by using geologic indicators preserved in carbonate rocks and sediments. The course is laboratory-based, with an emphasis on making predictions, observations, and interpretations on samples collected by the class during field trips to ancient and modern carbonate environments.

**GEOL B399 SENIOR CAPSTONE SEMINAR**

*Staff*

A capstone seminar course required for all Geology majors. All Geology seniors will be required to participate in this two-semester seminar that meets weekly for 1.5 hours for a total of 1.0 credit (0.5 credits per semester). Enrollment required in two half-credit courses, one in the fall and one in the spring semester of the senior year. The focus of the seminar will be to integrate the student’s major curriculum into open peer-led discussions on cutting edge research in the many diverse fields of Geology, to discuss the impact and relevance of Geology to modern society, and to work on oral and
written communication skills. Units: 0.5. (Fall 2016, Spring 2017)

**GEOL B403 SUPERVISED RESEARCH**

*Staff*

At the discretion of the department faculty, rising seniors may undertake an independent thesis project in addition to mandatory full participation in the senior capstone seminar. This student thesis is conducted under the supervision of a faculty adviser(s). The undertaking of a thesis is modeled after a Master’s thesis project, which is scaled down for the different time frame (one year versus two years) and educational level of a senior undergraduate student. The thesis project plan is initially developed, and agreed upon by conference between the supervising faculty member(s) and the student. Most of the research is conducted independently by the student. The adviser serves as a source of ideas concerning scientific literature, methodologies, and financial support. The adviser may visit and inspect the research sites, laboratory or model, and offer advice on how the research should be conducted or modified. Units: 0.5, 1.0. (Fall 2016, Spring 2017)

**GEOL B425 PRAXIS III**

*Staff*

Independent or group projects with a significant emphasis on community outreach and service. Projects usually focus on addressing environmental issues through collaborative work with off-campus practitioners. Prerequisite(s): advanced standing in the environmental studies concentration or permission of the instructor. Counts towards: Praxis Program. Units: 1.0. (Not Offered 2016-2017)

**BIOL B236 EVOLUTION**

*Pedro Marenco, G. Davis*

A lecture/discussion course on the development of evolutionary biology. This course will cover the history of evolutionary theory, population genetics, molecular and developmental evolution, paleontology, and phylogenetic analysis. Lecture three hours a week. Approach: Scientific Investigation (SI). Counts towards: Biochemistry and Molecular Biology. Units: 1.0. (Spring 2017)

**BIOL B250 COMPUTATIONAL METHODS IN THE SCIENCES**

*Staff*

A study of how and why modern computation methods are used in scientific inquiry. Students will learn basic principles of visualizing and analyzing scientific data through hands-on programming exercises. The majority of the course will use the R programming language and corresponding open source statistical software. Content will focus on data sets from across the sciences. Six hours of combined lecture/lab per week. Approach: Quantitative Methods (QM); Quantitative Readiness Required (QR); Scientific Investigation (SI). Major Writing Requirement: Writing Attentive Counts towards: Biochemistry and Molecular Biology; Environmental Studies; Neuroscience. Units: 1.0. (Not Offered 2016-2017)

**ENVS B397 SENIOR SEMINAR IN ENVIRONMENTAL STUDIES**

*J Goldsmith*

In this capstone course, senior Environmental Studies minors from across the disciplines will draw on the perspectives and skills gained from their majors and from their preparatory work in the minor to collaboratively engage high-level questions of environmental inquiry. Prerequisite(s): Open only to Environmental Studies minors who have completed all introductory work for the minor. Counts towards: Environmental Studies Units: 1.0. (Fall 2016)

**GEOL B103 EARTH SYSTEMS AND THE ENVIRONMENT**

*Staff*

This integrated approach to studying the Earth focuses on interactions among geology, oceanography, and biology. Also discussed are the consequences of human energy consumption, industrial development, and land use. Two lectures and one afternoon of laboratory or fieldwork per week. A required field trip is taken in April. Approach: Scientific Investigation (SI). Counts towards: Environmental Studies. Units: 1.0. (Not Offered 2016-2017)

**GEOL B109 QUANTITATIVE PROBLEMS IN THE EARTH SCIENCE**

*Staff*

An introduction to quantitative methods used for solving problems in Earth science. We will examine a wide variety of geologic questions: seismicity and earthquakes, volcanic activity, landslide triggers, flooding patterns, and more. We will then practice a range of quantitative techniques to approach those questions, both from a broad, global perspective
and by examining current, relevant case studies. 
Prerequisite(s): Quantitative Readiness Required. 
Approach: Quantitative Methods (QM); 
Quantitative Readiness Required (QR); Scientific 
Investigation (SI). Units: 1.0. (Not Offered 2016-2017)

GEOL B206 ENERGY RESOURCES AND SUSTAINABILITY  
Don Barber  
An examination of issues concerning the supply of energy required by humanity. This includes an investigation of the geological framework that determines resource availability, aspects of energy production and resource development and the science of global climate change. Two 90-minute lectures a week. Suggested preparation: one year of college science. Approach: Scientific Investigation (SI). Counts towards: Environmental Studies. Units: 1.0. (Fall 2016)

GEOL B209 NATURAL HAZARDS  
Staff  
A quantitative approach to understanding the earth processes that impact human societies. We consider the past, current, and future hazards presented by geologic processes, including earthquakes, volcanoes, landslides, floods, and hurricanes. The course includes discussion of the social, economic, and policy contexts within which natural geologic processes become hazards. Case studies are drawn from contemporary and ancient societies. Lecture three hours a week. Prerequisite(s): one semester of college science or permission of instructor. Approach: Quantitative Methods (QM); Quantitative Readiness Required (QR). Counts towards: Environmental Studies. Units: 1.0. (Not Offered 2016-2017)

GEOL B302 LOW-TEMPERATURE GEOCHEMISTRY  
Staff  
Stable isotope geochemistry is one of the most important subfields of the Earth sciences for understanding environmental and climatic change. In this course, we will explore stable isotopic fundamentals and applications including a number of important case studies from the recent and deep time dealing with important biotic events in the fossil record and major climate changes. Prerequisite(s): GEOL 101 or GEOL 102, and at least one semester of chemistry or physics, or professor approval. Counts towards: Environmental Studies. Units: 1.0. (Not Offered 2016-2017)

PHYS B350 COMPUTATIONAL METHODS IN THE PHYSICAL SCIENCES  
Staff  
This course provides an introduction to a variety of computational tools and programming techniques that physical science graduates might encounter in graduate work or employment in STEM-related fields. Tools explored will include both command-line and GUI programming environments, both scripting and scientific programming languages, basic programming concepts such as loops and function calls, and key scientific programming applications such as integration, finding of roots and minima/maxima, least-square fitting, solution of differential equations, boundary-value problems, finite-element analysis, Fourier analysis, matrix operations, Monte Carlo techniques, and possibly neural networks. Where possible, examples will be taken from multiple scientific disciplines, in addition to physics. This course is intended for second semester sophomores, juniors and seniors. Co-requisite(s): MATH B203 and three units of science (Biology, Physics, Chemistry or Geology). Units: 1.0. (Not Offered 2016-2017)

ARCH B104 ARCHAEOLOGY OF AGRICULTURAL AND URBAN REVOLUTIONS  
Peter Magee  
This course examines the archaeology of the two most fundamental changes that have occurred in human society in the last 12,000 years, agriculture and urbanism, and we explore these in Egypt and the Near East as far as India. We also explore those societies that did not experience these changes. Approach: Cross-Cultural Analysis (CC); Inquiry into the Past (IP). Counts towards: Geoarchaeology; Middle Eastern Studies. Units: 1.0. (Spring 2017)

ARCH B135 FOCUS: ARCHAEOLOGICAL FIELDWORK AND METHODS  
Staff  
The fundamentals of the practice of archaeology through readings and case studies and participatory demonstrations. Case studies will be drawn from the archives of the Nemea Valley Archaeological Project and material in the College's collections. Each week there will be a one-hour laboratory that will introduce students to a variety of fieldwork methods and forms of analysis. This is a half semester Focus course. Approach: Inquiry into the
Past (IP). Counts towards: Geoarchaeology
Units: 0.5. (Not Offered 2016-2017)

ARCH B308 CERAMIC ANALYSIS
Peter Magee
Pottery is a fundamental means of establishing the relative chronology of archaeological sites and of understanding past human behavior. Included are theories, methods and techniques of pottery description, analysis and interpretation. Topics include typology, seriation, ceramic characterization, production, function, exchange and the use of computers in pottery analysis. Laboratory work on pottery in the department collections. Prerequisite(s): permission of instructor. Counts towards: Geoarchaeology
Units: 1.0. (Spring 2017)
GERMAN AND GERMAN STUDIES (BI-CO)
haverford.edu/german

The Bi-College Department of German draws upon the expertise of the German faculty at both Bryn Mawr and Haverford Colleges to offer a broadly conceived German Studies program, incorporating a variety of courses and major options. The purpose of the major in German is to lay the foundation for a critical understanding of German culture in its contemporary international context and its larger political, social, and intellectual history. To this end, we encourage a thorough and comparative study of the German language and culture through its linguistic and literary history, institutions, political systems, and arts and sciences.

The German program aims, by means of various methodological approaches to the study of another language, to foster critical thinking, expository writing skills, understanding of the diversity of culture(s), and the ability to respond creatively to the challenges posed by cultural difference in an increasingly global world. Course offerings are intended to serve both students with particular interests in German literature and literary theory and criticism, and those interested in studying German and German-speaking cultures from the perspective of communication arts, film, history, history of ideas, history of art and architecture, history of religion, institutions, linguistics, mass media, philosophy, politics, and urban anthropology and folklore.

LEARNING GOALS
The German program aims, through the study of German language, culture, and literature, to foster:
- critical thinking.
- expository writing skills.
- the mastery of critical theories and methodologies, crucial for the analysis of cultural artifacts.
- the ability to respond intellectually and creatively to the challenges posed by cultural difference in an increasingly multicultural and global world.
- a thorough knowledge of German language.

CURRICULUM
A thorough knowledge of German is a goal for both major concentrations. The objective of our language instruction is to teach students communicative skills that enable them to function effectively in authentic conditions of language use and to speak and write in idiomatic German. A major component of all German courses is the examination of issues that underlie the cosmopolitanism as well as the specificity and complexity of contemporary German culture. German majors can and are encouraged to take courses in interdisciplinary areas, such as comparative literature, film, gender and sexuality studies, growth and structure of cities, history, history of art, music, philosophy, and political science, where they read works of criticism in these areas in the original German. Courses relating to any aspect of German culture, history, and politics given in other departments can count toward requirements for the major or minor.

MAJOR REQUIREMENTS
After the completion of the GERM 101-102 sequence (or its equivalent) the German language and literature concentration normally follows the sequence 201 and/or 202; 209 or 212, or 213; plus additional courses to complete the 10 units, two of them at the 300 level; and finally one semester of Senior Conference or either an additional 300-level seminar in German or GERM 403 (Supervised Work) for double majors.

A German Studies major normally includes 201 or 202; 223 or 245; one 200- and one 300-level course in German literature; three courses (at least one at the 300 level) in subjects central to aspects of German culture, history, or politics; and one semester of GERM 321 (Advanced Topics in German Cultural Studies). Within each concentration, courses need to be selected so as to achieve a reasonable breadth, but also a degree of disciplinary coherence.

MINOR REQUIREMENTS
A minor in German and German Studies consists of six units of work. To earn a minor, students are normally required to take GERM 201 or 202, five additional units covering a reasonable range of study topics, of which at least one unit is at the 300 level. One upper-level course may be chosen with the approval of the department from the recommended electives for German Studies majors.
SENIOR PROJECT
All of our majors are required to write a senior thesis in German, or—if they are double majors—to produce a thesis in a related discipline that has significant overlap with their work in German. They typically take a 300-level seminar in fall and write a research term paper that often becomes the foundation for their senior project. In the spring semester they take the mandatory 399 Senior Conference consisting of weekly meetings and discussions of thesis proposals and drafts with their adviser(s).

Senior Project Learning Goals
In writing the senior thesis, the student should demonstrate a) the capacity to conceive a theoretically informed and well designed research project b) the language skills to research and evaluate primary and secondary materials and to effectively synthesize these, and c) the analytical and methodological skills to produce an innovative and critically astute thesis.

Senior Project Assessment
The quality of the thesis is evaluated on the basis of the following criteria:
• Originality of topic.
• Mastery of analysis.
• Familiarity with primary and secondary literature.
• Creative application of relevant theoretical discourses.
• Clarity of writing.

REQUIREMENTS FOR HONORS
Any student whose grade point average in the major at the end of the senior year is 3.8 or higher qualifies for departmental honors. Students who have completed a thesis and whose major grade point average at the end of the senior year is 3.6 or higher, 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 she has done coursework, and at least one other faculty member 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. If there is a sharp difference of opinion, additional readers will serve as needed.

CONCENTRATIONS AND INTERDISCIPLINARY MINORS
The German department with its cross-disciplinary curriculum is a regular contributor to the Comparative Literature program, Gender and Sexuality Studies, the Cities program, as well as Africana Studies.

STUDY ABROAD
We encourage students majoring in German to spend time in German-speaking countries in the course of their undergraduate studies. Possibilities include summer work programs, DAAD (German Academic Exchange) scholarships for summer courses at German universities, and selected junior year abroad programs (Berlin, Freiburg, Vienna).

FACULTY
At Haverford:
Ulrich Schönherr (Co-Chair)
Professor of German and Comparative Literature

Imke Brust
Assistant Professor of German (on leave Fall 2016)

Simone Schlichting-Artur
Visiting Associate Professor of German

At Bryn Mawr:
Azade Seyhan (Co-Chair)
Fairbank Professor in the Humanities; Professor of German and Comparative Literature

Qinna Shen
Assistant Professor of German

COURSES
GERMH001 ELEMENTARY GERMAN
Simone Schlichting-Artur
Meets five hours a week with the individual class instructor, one hour with student drill instructors. Strong emphasis on communicative competence both in spoken and written German in a larger cultural context. This is a year-long course; both semesters (001 and 002) are required for credit. Humanities (HU)

GERMH002 ELEMENTARY GERMAN
Imke Brust
Humanities (HU)

GERMH101 INTERMEDIATE GERMAN
Ulrich Schöenherr, Imke Brust

Haverford College Catalog 2016-2017
Meets three hours a week with the individual class instructor, one hour with student drill instructor. Thorough review of grammar, exercises in composition and conversation. Enforcement of correct grammatical patterns and idiomatic use of language. Study of selected literary and cultural texts and films from German-speaking countries. Two semesters. Humanities (HU)

GERMH102 INTERMEDIATE GERMAN
Ulrich Schöenherr, Imke Brust
Meets three hours a week with the individual class instructor, one hour with student drill instructor. Thorough review of grammar, exercises in composition and conversation. Enforcement of correct grammatical patterns and idiomatic use of language. Study of selected literary and cultural texts and films from German-speaking countries. Two semesters. Humanities (HU)

GERMH201 ADVANCED TRAINING: LANGUAGE, TEXT, AND CONTEXT
Ulrich Schöenherr
This course is intended for students who wish to refine their speaking, writing, and reading skills beyond the Intermediate level. Designed as a comprehensive introduction to modern German culture, we will discuss a variety of literary, political, historical and philosophical texts, including feature films and video materials. Weekly grammar reviews will complement these activities. Humanities (HU)

GERMH215 SURVEY OF LITERATURE IN GERMAN
Imke Brust
The seminar is designed to give a broad overview of the various aesthetic trends which have shaped contemporary German-speaking literature. Focusing on representative works—including prose, drama, and poetry—this course will retrace and engage with the historical role of literature in the German speaking world over time, and access the importance of German literature in the current era of globalization and mass communication. Humanities (HU)

GERMH262 EUROPEAN FILM
Imke Brust
Humanities (HU)

GERMH262 POST-WALL GERMAN FILM
Imke Brust

This course provides a brief introduction to film studies and explores in particular post-wall German film. We will investigate how the selected films represent ideas of the nation visually, and how they aim to create or deconstruct certain myths of the German nation. Furthermore, this course will scrutinize in what ways the films depict issues of gender and race as part of the German national narrative struggle. In conclusion, we will focus on the role of memory within the national consciousness, and how certain post-wall German films fit within the heated discussion about a normalization of German history, which the reunification entailed. (Taught in English with an extra session in German). Humanities (HU)

GERMH320 SCIENCE AS FICTION
Ulrich Schöenherr, Imke Brust
Taught in English. How does scientific knowledge inform and influence literature? How do scientific texts make use of literary strategies and rhetorical devices in order to produce and disseminate new knowledge? Bringing together primary texts from the history of science with key literary works from Goethe to cyberpunk, this seminar will introduce students to the interdisciplinary study of relations between science and literature. Despite disciplinary divisions, literature and the sciences converge strikingly in terms of their shared objects of inquiry, theoretical assumptions, and representational strategies. We will investigate how foundational concepts in the fields of chemistry, biology, physics, psychology, and cybernetics have profoundly shaped modern fiction. While taking seriously scientific claims of truth and objectivity, we will also discuss how scientists have historically drawn on the resource of fiction as a form of knowing and communicating. Primary texts will include works by Goethe, Mary Shelley, Poe, Mesmer, Darwin, Zola, Bram Stoker, Ernst Mach, Musil, Kafka, Einstein, Calvino, Norbert Wiener, Pynchon, and William Gibson. Crosslisted: Comparative Literature; Humanities (HU)

GERMH320 CONTEMPORARY GERMAN FICTION (IN GERMAN)
Ulrich Schöenherr
Taught in German. One of the most interesting and exciting aspects of contemporary German-speaking literature is its aesthetic diversity, which eludes any clear-cut literary-historical definition. Instead, we are confronted with the co-existence of multiple aesthetic models, including documentary, feminist, meta-fictional, autobiographical, and immigrant...
literatures—compelling evidence that the notion of a single German literature has become totally obsolete. The course is designed to reflect this aesthetic plurality that has shaped German-speaking culture over the past several decades. Focusing on exemplary texts, the seminar will closely examine the diverging literary concepts and writing practices, characteristic of the literary scene today. Readings include texts and films by Kehlmann, Hubert Fichte, Weiss, Kirchhoff, Judith Herrmann, Hanke, Jelinek, Handke, Wenders, Sebald, Ledig, Timm, Ransmayr, Herta Müller, and Ingo Schulze. Humanities (HU)

**GERMH321 GERMAN COLONIALISM AND WORLD WAR I**

*Imke Brust*

This course will provide a historical overview of German colonial history in Africa, and critically engage with its origins, processes, and outcomes. We will first scrutinize colonial efforts by individual German states before the first unification of Germany in 1871, and then investigate the colonialism of Imperial Germany. In particular, we will focus on the time after the 1884/1885 Berlin Conference that sought to regulate the so-called “Scramble for Africa” and explore how the First World War was related to Germany’s colonial ambitions. Moreover, we will engage with the parallel development of the German national and colonial project and the Social Darwinist thinking that influenced and contributed to the racialization of German national identity. Crosslisted: Comparative Literature; Humanities (HU)

**GERMH399 SENIOR CONFERENCE**

*Ulrich Schöenherr*

Humanities (HU)
GROWTH AND STRUCTURE OF CITIES AT BRYN MAWR COLLEGE

brynmawr.edu/cities

Students may complete a major or minor in Growth and Structure of Cities. Complementing the major, students may complete a minor in Environmental Studies, or a minor in Latin American, Latina/o, and Iberian Peoples and Cultures. Students also may enter the 3-2 Program in City and Regional Planning, offered in cooperation with the University of Pennsylvania.

The interdisciplinary Growth and Structure of Cities major challenges students to understand the dynamic relationships connecting urban spatial organization and the built environment with politics, economics, cultures and societies worldwide. Core introductory classes present analytic approaches that explore changing forms of the city over time and analyze the variety of ways through which women and men have re-created global urban life across history and across cultures. With these foundations, students pursue their interests through classes in architecture, urban social and economic relations, urban history, studies of planning and the environmental conditions of urban life. Opportunities for internships, volunteering, and study abroad also enrich the major. Advanced seminars further ground the course of study by focusing on specific cities and topics.

MAJOR REQUIREMENTS

A minimum of 15 courses (11 courses in Cities and four allied courses in other related fields) is required to complete the major. Two introductory courses (185, 190) balance sociocultural and formal approaches to urban form and the built environment, and introduce cross-cultural and historical comparison of urban development. The introductory sequence should be completed with a broader architectural survey course (253, 254, 255) and a second social science course that entails extended analysis and writing (229). These courses should be completed as early as possible in the first and second years; at least two of them must be taken by the end of the first semester of the sophomore year.

Writing across multiple disciplines is central to the major, drawing on sources as varied as architectural and visual studies, ethnographic fieldwork, archival and textual study, theoretical reflection and policy engagement. Students write and receive commentary on their arguments and expression from their introductory classes through their required capstone thesis. While most courses in the major have important writing components, at the moment CITY 229 acts as our primary writing-intensive course, asking students to draw upon the breadth of their interests to focus on researching, writing and rewriting within a comparative framework. We will be expanding our pedagogy in this area over time in conjunction with college initiatives and student feedback. At the same time, students are encouraged to use other classes within the major to develop a range of skills in methods, theory, and presentations, oral and written.

In addition to these introductory courses, each student selects six elective courses within the Cities Department, including crosslisted courses. One of these should be a methods class. The student should also take the 0.5 credit Junior Seminar (298) during one semester of their junior year. At least two must be at the 300 level. In the senior year, a capstone course is required of all majors. Most students join together in a Research Seminar (CITY 398) in the fall of that year. Occasionally, however, after consultation with the major advisers, the student may elect another 300-level course or a program for independent research. This is often the case with double majors who write a thesis in another field. Internships are also an important component of the program either in the summer or for credit with faculty supervision.

Finally, each student must also identify four courses outside Cities that represent additional expertise to complement her work in the major. These may include courses such as physics and calculus for architects, additional courses in economics, political science, sociology, or anthropology for students more focused on the social sciences and planning, or courses that build on language, design, or regional interests. Any minor, concentration, or second major also fulfills this requirement. Cities courses that are cross-listed with other departments or originate in them can be counted only once in the course selection, although they may be either allied or elective.

Haverford College Catalog 2016-2017
GROWTH AND STRUCTURE OF CITIES AT BRYN MAWR COLLEGE

Both the Cities Department electives and the four or more allied courses must be chosen in close consultation with the major advisers in order to create a strongly coherent sequence and focus. This is especially true for students interested in architectural design, who will need to arrange studio courses (226, 228) as well as accompanying courses in math, science and architectural history; they should contact the department chair or Daniela Voith in their first year. Likewise, students interested in pursuing a minor in Environmental Studies or a concentration in Iberian, Latin American, and Latino/a themes or in Global Asian Studies should consult with faculty early in their career.

Students should also note that many courses in the department as well as crosslisted courses are not given every year. They should also note that courses may carry prerequisites in Cities, History of Art, Economics, History, Sociology, or the natural sciences.

Programs for study abroad or off-campus are encouraged, within the limits of the Bryn Mawr and Haverford rules and practices. In general, a one-semester program is strongly preferred. The Cities Department regularly works with off-campus and study-abroad programs that are strong in architectural history, planning, and design, as well as those that allow students to pursue social and cultural interests. Students who would like to spend part or all of their junior year away must consult with the major advisers and appropriate deans early in their sophomore year.

Cities majors have created major plans that have allowed them to coordinate their interests in cities with architecture, planning, ethnography, history, law, environmental studies, mass media, social justice, medicine, public health, the fine arts, and other fields. No matter the focus, though, each Cities major must develop a solid foundation in both the history of architecture and urban form and the analysis of urban culture, experience, and policy. Careful methodological choices, clear analytical writing, and critical visual analysis constitute primary emphases of the major. Strong interaction with faculty and other students are an important and productive part of the Cities Department, which helps us all take advantage of the major’s flexibility in an organized and rigorous way.

MINOR REQUIREMENTS
Students who wish to minor in the Cities Department must take at least two out of the four required courses and four cities electives, including two at the 300 level. Senior Seminar is not mandatory for fulfilling the Cities minor.

3-2 PROGRAM IN CITY AND REGIONAL PLANNING
Over the past three decades, many Cities majors have entered the 3-2 Program in City and Regional Planning, offered in conjunction with the University of Pennsylvania. Students interested in this program should meet with faculty early in their sophomore year.

FACULTY
Jeffrey Cohen
Term Professor
Jennifer Hurley
Instructor
Gary McDonogh
Chair and Professor of Growth and Structure of Cities and Helen Herrmann Chair
Thomas Morton
Visiting Assistant Professor
Samuel Olshin
Senior Visiting Studio Critic
Liv Raddatz
Lecturer
Victoria Reyes (on leave 2016-17)
Assistant Professor
Daniela Voith
Senior Lecturer

COURSES
CITY B185 URBAN CULTURE AND SOCIETY
Gary McDonogh
Examines techniques and questions of the social sciences as tools for studying historical and contemporary cities. Topics include political-economic organization, conflict and social differentiation (class, ethnicity and gender), and cultural production and representation.
GROWTH AND STRUCTURE OF CITIES AT BRYN MAWR COLLEGE

Philadelphia features prominently in discussion, reading and exploration as do global metropolitan comparisons through papers involving fieldwork, critical reading and planning/problem solving using qualitative and quantitative methods. Approach: Cross-Cultural Analysis (CC); Inquiry into the Past (IP). (Fall 2016)

CITY B190 THE FORM OF THE CITY: URBAN FORM FROM ANTIQUITY TO THE PRESENT
Thomas Morton
This course studies 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. Approach: Cross-Cultural Analysis (CC); Inquiry into the Past (IP). (Spring 2017)

CITY B201 INTRODUCTION TO GIS FOR SOCIAL AND ENVIRONMENTAL ANALYSIS
Staff
This course is designed to introduce the foundations of GIS with emphasis on applications for social and environmental analysis. It deals with basic principles of GIS and its use in spatial analysis and information management. Ultimately, students will design and carry out research projects on topics of their own choosing. Approach: Quantitative Readiness Required (QR). Counts towards: Environmental Studies. (Not Offered 2016-2017)

CITY B207 TOPICS IN URBAN STUDIES
Staff
This is a topics course. Course content varies. Approach: Critical Interpretation (CI); Inquiry into the Past (IP). (Not Offered 2016-2017)

CITY B217 RESEARCH METHODS IN THE SOCIAL SCIENCES
Staff
This is a topics course. Course content varies. Current topic description: In this course, we will focus on the processes of research and on “learning by doing.” The course encompasses quantitative and qualitative techniques, and we will compare the strengths and weaknesses of each. We will calculate descriptive statistics and basic statistical analyses manually and with statistical software, followed by engagement with various methods (interviews, ethnographic observations, document analysis). Approach: Quantitative Methods (QM) (Spring 2017)

CITY B218 TOPICS IN WORLD CITIES
Staff
This is a topics course. Course content varies. An introduction to contemporary issues related to the urban environment. Approach: Cross-Cultural Analysis (CC). (Not Offered 2016-2017)

CITY B226 INTRODUCTION TO ARCHITECTURAL DESIGN
Daniela Voith, Samuel Olshin
This studio design course introduces the principles of architectural design. Suggested preparation: drawing, some history of architecture, and permission of instructor. Approach: Critical Interpretation (CI). (Fall 2016)

CITY B227 TOPICS IN MODERN PLANNING
Staff
This is a topics course. Course content varies. Approach: Cross-Cultural Analysis (CC); Inquiry into the Past (IP). (Not Offered 2016-2017)

CITY B228 PROBLEMS IN ARCHITECTURAL DESIGN
Daniela Voith, Samuel Olshin
A continuation of CITY 226 at a more advanced level. Prerequisite(s): CITY B226 or permission of instructor. Approach: Course does not meet an Approach. (Spring 2017)

CITY B229 TOPICS IN COMPARATIVE URBANISM
Gary McDonogh
This is a topics course. Course content varies. Approach: Cross-Cultural Analysis (CC); Inquiry into the Past (IP). Major Writing Requirement: Writing Intensive. Counts towards: Latin American, Iberian and Latina/o Studies

Spring 2017: Colonial and Post-Colonial Cities.
Probing the relations of power at the heart of power and society in many cities worldwide, this class uses case studies to test urban theory, forms and practice. In order to grapple with colonialism and its aftermaths, we will focus on cities in North Africa, France, Ireland, Hong Kong and Cuba, systematically exploring research, writing and insights from systematic interdisciplinary
At a time when more than half of the human population lives in cities, the design of the built environment is of key importance. This course is designed for students to investigate issues of sustainability in architecture. A close reading of texts and careful analysis of buildings and cities will help us understand the terms and practices of architectural design and the importance of ecological, economic, political, cultural, social sustainability over time and through space. Approach: Cross-Cultural Analysis (CC); Inquiry into the Past (IP). Counts towards: Environmental Studies; Praxis Program. (Not Offered 2016-2017)

This is a topics course. Course content varies. Approach: Inquiry into the Past (IP). Counts towards: Environmental Studies. (Not Offered 2016-2017)

A survey of the development of modern architecture since the 18th century. The course focuses on international networks in the transmission of architectural ideas since 1890. Approach: Cross-Cultural Analysis (CC); Inquiry into the Past (IP). (Fall 2016)

This survey course examines architecture within the global framework of “the modern.” Through an introduction to an architectural canon of works and figures, it seeks to foster a critical consideration of modernity, modernization, and modernism. The course explores each as a category of meaning that framed the theory and practice of architecture as a cultural, political, social, and technological enterprise. It also uses these conjugates to study the modes by which architecture may be said to have framed history. We will study practical and discursive activity that formed a dynamic field within which many of the contradictions of “the modern” were made visible (and visual) through architecture. In this course, we will engage architectural concepts and designs by studying drawings and buildings closely within their historical context. We will examine spheres of reception for architecture and its theoretical, discursive, and cultural life through a variety of media: buildings of course, but also journals, books, and film. We will also investigate architecture as a site and subject for critical inquiry. In particular, we will see what it may tell us about the globalization and politics of the twentieth century, and about history, theory, and criticism as epistemological tracks. Approach: Critical Interpretation (CI); Inquiry into the Past (IP). (Spring 2017)

This course explores major themes of American environmental history, examining changes in the American landscape, the history of ideas about nature and the interaction between the two. Students will study definitions of nature, environment, and environmental history while investigating interactions between Americans and their physical worlds. Approach: Inquiry into the Past (IP). Counts towards: Environmental Studies. (Not Offered 2016-2017)

This is a topics course. Course content varies. Approach: Course does not meet an Approach Fall 2016: Junior Seminar. We will focus on bringing together methods, theories, data and research ethics in preliminary preparation for your senior thesis and/or summer research projects (HHG/CPGC). Class will for the first quarter/the first half of the semester. Weekly mini-assignments and in-class exercises are designed to help you prepare for your final project - a research proposal. Spring 2017: Junior Seminar. We will focus on bringing together methods, theories, data and research ethics in preliminary preparation for your senior thesis and/or summer research projects (HHG/CPGC). Class will for the first quarter/the first half of the semester. Weekly mini-assignments
and in-class exercises are designed to help you prepare for your final project - a research proposal.

CITY B304 DISASTER, WAR AND REBUILDING IN THE JAPANESE CITY
Staff
Natural and man-made disasters have destroyed Japanese cities regularly. Rebuilding generally ensued at a very rapid pace, often as a continuation of the past. Following a brief examination of literature on disaster and rebuilding and a historical overview of architectural and urban history in Japan, this course explores the reasons for historical transformations large and small. It specifically argues that rebuilding was mostly the result of traditions, whereas transformation of urban space occurred primarily as a result of political and socio-economic change. Focusing on the period since the Meiji restoration of 1868, we ask: How did reconstruction after natural and man-made disasters shape the contemporary Japanese landscape? We will explore specifically the destruction and rebuilding after the 1891 Nobi earthquake, the 1923 Great Kanto earthquake that leveled Tokyo and Yokohama, the bombing of more than 200 cities in World War II and their rebuilding, as well as the 1995 Great Hanshin earthquake that destroyed Kobe and its reconstruction. In the context of the long history of destruction and rebuilding we will finally explore the recent disaster in Fukushima 2011. Through the story of disaster and rebuilding emerge different approaches to permanence and change, to urban livability, the environment and sustainability. (Not Offered 2016-2017)

CITY B306 ADVANCED FIELDWORK TECHNIQUES: PLACES IN TIME
Jeffrey Cohen
A workshop for research into the histories of places, intended to bring students into contact with some of the raw materials of architectural and urban history. A focus will be placed on historical images and texts, and on creating engaging informational experiences that are transparent to their evidentiary basis. (Spring 2017)

CITY B318 TOPICS IN URBAN SOCIAL AND CULTURAL THEORY
This is a topics course. Course content varies.

Spring 2017: “Public” in Policy and Planning. Public participation is a common part of the policy development, adoption, and implementation process in all levels of government and across a wide range of issues, including urban planning, transportation, environmental protection, education, and public health. This course will explore who that public is and how public participation interacts with the policy process, why it matters for the functioning of democracy, and how different ways of engaging the public serve different interests.

CITY B325 TOPICS IN SOCIAL HISTORY
Staff
This a topics course that explores various themes in American social history. Course content varies. (Fall 2016)

CITY B329 ADVANCED TOPICS IN URBAN ENVIRONMENTS
Staff
This is a topics course. Course content varies. Counts towards: Environmental Studies. (Not Offered 2016-2017)

CITY B335 TOPICS IN CITY AND MEDIA
Gary McDonogh
This is a topics course. Course content varies.

Spring 2017: Public/Private/Control/Freedom. Cities demand and create information. Urbanism has thrived on, through and by media from monumental constructions to newspapers and film to today’s social networks. This seminar explores global practices, major theoretical debates, social exclusions and resistance, and diasporic extensions of the mediated city. Looking through the prism of public, counter-public and private spheres we examine the dialectic of control and freedom these urbane connections embody.

CITY B345 ADVANCED TOPICS IN ENVIRONMENT AND SOCIETY
Staff
This is a topics course. Topics vary. Counts towards: Environmental Studies. (Not Offered 2016-2017)

CITY B360 TOPICS: URBAN CULTURE AND SOCIETY
Thomas Morton
This is a topics course. Course content varies.

Fall 2016: City of Rome. In this seminar we will
study the city of Rome through time and space and will start with the city's mythical founding and work our way through contemporary Rome. Focal points will include: the Roman Empire, the urban planning of the Baroque popes, Mussolini's 'Third Rome,' and the contemporary city of Renzo Piano, Richard Meier, and Zaha Hadid. Throughout this discussion-based course we will examine innumerable issues, such as the use and abuse of the past throughout the city's long history.

**CITY B365 TOPICS: TECHNIQUES OF THE CITY**
*Staff*
This is a topics course. Course content varies. Prerequisite: Student must have taken at least one social science course.

*Spring 2017: City and Military.* This course is the social scientific examination of how the military and city interact. We will explore the social, cultural, political, and geographic processes, interactions, and consequences of the military.

**CITY B377 TOPICS IN MODERN ARCHITECTURE**
*Staff*
This is a topics course on modern architecture. Topics vary. (Not Offered 2016-2017)

**CITY B378 FORMATIVE LANDSCAPES: THE ARCHITECTURE AND PLANNING OF AMERICAN COLLEGIATE CAMPUSES**
*Staff*
The campus and buildings familiar to us here at the College reflect a long and rich design conversation regarding communicative form, architectural innovation, and orchestrated planning. This course will explore that conversation through varied examples, key models, and shaping conceptions over time. (Not Offered 2016-2017)

**CITY B398 SENIOR SEMINAR**
*Staff*
An intensive research seminar designed to guide students in writing a senior thesis. (Fall 2016)

**CITY B403 INDEPENDENT STUDY**
*Staff*
(Fall 2016, Spring 2017)

**CITY B415 TEACHING ASSISTANT**
*Gary McDonogh*
An exploration of course planning, pedagogy and creative thinking as students work to help others understand pathways they have already explored in introductory and writing classes. This opportunity is available only to advanced students of highest standing by professorial invitation. (Fall 2016)

**CITY B425 PRAXIS III: INDEPENDENT STUDY**
*Staff*
Praxis III courses are Independent Study courses and are developed by individual students, in collaboration with faculty and field supervisors. A Praxis course is distinguished by genuine collaboration with fieldsite organizations and by a dynamic process of reflection that incorporates lessons learned in the field into the classroom setting and applies theoretical understanding gained through classroom study to work done in the broader community. Counts towards: Praxis Program. (Not Offered 2016-2017)

**CITY B278 AMERICAN ENVIRONMENTAL HISTORY**
*Staff*
This course explores major themes of American environmental history, examining changes in the American landscape, the history of ideas about nature and the interaction between the two. Students will study definitions of nature, environment, and environmental history while investigating interactions between Americans and their physical worlds. Approach: Inquiry into the Past (IP). Counts towards: Environmental Studies. (Not Offered 2016-2017)

**CITY B345 ADVANCED TOPICS IN ENVIRONMENT AND SOCIETY**
*Staff*
This is a topics course. Topics vary. Counts towards: Environmental Studies. (Not Offered 2016-2017)
Multidisciplinary in approach and collaborative in spirit, the Bi-College Health Studies Minor embraces insights from the natural sciences, social sciences, and humanities. Students learn how to synthesize evidence and methods from an array of disciplinary perspectives to investigate the causes, treatment, and care of illness and affliction. Students also gain experience in working in productive partnerships with each other and community stakeholders in the pursuit of health for all.

The minor welcomes students from every major at both Haverford and Bryn Mawr, and the diverse perspectives of both students and faculty help to create an exceptionally rich and comprehensive learning experience. At the same time, the minor is dedicated to fostering each student’s particular academic and professional goals, which may include work in medicine, public health, health policy and economics, medical anthropology, journalism, social work, and medical humanities, among many possibilities.

The mission of the minor includes:
- creating a coherent curricular structure in which students address issues of health and disease informed by multidisciplinary investigations, combining insights from the natural sciences, social sciences, and humanities.
- developing students’ skills to think and write critically with depth, precision and sophistication about complex topics on health, disease and social justice.
- preparing students to work in partnership with diverse stakeholders to contribute to the well being of local communities and global populations.

Students may complete the Health Studies Minor in conjunction with any major at Haverford or Bryn Mawr, pending approval of the student’s coursework plan by the home department and the home-campus Health Studies director.

**LEARNING GOALS**

**General**
- Understand the interconnected physical, social, and humanistic dimensions of community health as described in the three core tracks below.
- Analyze the determinants of health and disease employing multidisciplinary perspectives.
- Apply principles of public health and social justice to contemporary issues of disease and well-being.
- Collaborate in interdisciplinary research and teamwork for improving community health.
- Conduct a literature review on a health issue employing diverse academic and public resources.

(Adapted from the Association of Schools of Public Health’s Undergraduate Public Health Learning Outcomes.)

**Learning Goals: Three Core Tracks**

**M Track (Mechanisms of Disease and the Maintenance of the Healthy Body):**
- Describe the biological mechanisms and risk factors of both infectious and chronic diseases.
- Understand how methods of epidemiology and surveillance are used to monitor population health and respond to disease outbreaks.
- Evaluate multiple sources of health information and assess health data; use this information to develop responses to individual and community health issues.
- Assess the influence that scientific research and technology have on individual and population health.

**R Track (Cultural, Literary and Visual Representations of Health and Illness):**
- Identify the role that humanistic inquiry plays in developing responses to pressing health issues.
- Understand how literary and visual representations and cultural productions shape conceptions of health, illness, and the body.
- Explore the diversity of health beliefs and healing practices among individuals, communities, and cultures in local, national, and global contexts.
- Analyze ethical dilemmas in the field of public health, clinical medicine, and biomedical research.
HEALTH STUDIES MINOR

• Understand how intersections of gender, race, ethnicity, and sexual discrimination shape health and disease, risk and vulnerability.

S Track (Familial, Social, Civic and Governmental Structures that Respond to Issues of Health and Disease):
• Investigate how social, political, legal, and economic structures and institutions influence responses to health and disease.
• Examine public health as social justice with a fundamental right to health and health services.
• Identify stakeholders who influence health programs and interventions.
• Recognize the impact of policies, laws, and legislation on both individual and population health.
• Understand roles and responsibilities of government, non-government agencies, and private organizations in promoting health.
• Understand how organizational structures, financing, and the delivery of health care and public health services impact population health.
• Recognize the role of community collaborations in promoting population health.

Learning Goals for the Capstone Course
• Through lectures, assigned and independent reading, students will work together to develop significant expertise in the chosen thematic area.
• Students, individually or in small groups, will identify an issue important to health and disease and prepare a research proposal that synthesizes and analyzes literature from their disciplinary field.
• Students will propose an original study of a health issue. The nature of this original research proposal would depend on the specific disciplinary perspective and major of the student. For example, the end product of the proposed work could be: a set of experiments and a discussion of the potential results; the design of a drug trial, complete with the correct statistical analysis; an educational curriculum or community intervention; a proposal for a monograph; or an artistic work.
• Students will share their preliminary proposals in formal oral presentations over the course of the semester. Meetings of the seminar will be set aside for formal critique of nascent proposals, such that each student will have the chance to participate in the generation of their colleagues’ proposals.
• Students will present and defend their project in a poster or oral presentation at the end of the course.

CURRICULUM
The curriculum is designed to offer breadth in the study of health and illness, both locally and globally. The minor offers an array of courses on both campuses in three tracks (M-R-S) which explore:
• biological, chemical, and psychological MECHANISMS and processes of disease and maintenance of health.
• cultural, literary, and visual REPRESENTATIONS of health and illness; and ethical issues in care and treatment.
• familial, social, governmental, civic SYSTEMS that structure risk of disease and access to health care.

Students are required to take an introductory level course (HLTH 115) and a senior-level capstone course (HLTH 398). Both courses introduce students to a range of perspectives on health and illness; and the capstone allows students the opportunity to explore with depth a health issue informed by their coursework and interests, while offering ideas for new directions in research and action.

MINOR REQUIREMENTS
The Health Studies Minor consists of six courses, which include:
• A required introductory course (HLTH 115), offered in the spring semester, to be taken prior to the senior year.
• Three elective core course credits from a list approved by the faculty steering committee. Students must elect two of these courses from a department outside of the student’s major, and at least two of these courses should be at the non-introductory level. Students must take one course in each of three tracks:
  o M track: Mechanisms of Disease and the Maintenance of the Healthy Body
  o R track: Cultural, Literary, Visual and Ethical Representations of Health and Illness
  o S track: Responses of Familial, Social, Civic and Governmental Structures to Issues of Health and Disease.
HEALTH STUDIES MINOR

(See the HS website for lists of approved core courses in the three tracks.)

• One additional course, outside the student’s major. Students may choose either a core course or one selected from a list of approved affiliate courses which deal with health issues, but not necessarily as their primary focus. (See the HS website for lists of approved affiliate courses.)

• A senior capstone seminar (HLTH 398), organized around a single theme, which varies each year. Potential themes could be a particular health intervention (e.g., vaccinations), a specific disease (e.g., diabetes), or a specific population (e.g., Native Americans). Students analyze current literature addressing the theme from their own disciplinary perspectives and develop original research proposals and collaborative projects.

Some examples of past courses include:

M Track: The Mechanisms of Disease and the Maintenance of the Healthy Body (e.g. Neuroscience of Mental Illness):
• BIOL 301: Advanced Genetic Analysis
• BIOL 308: Immunology
• PSYC 327: Supersized Nation: Understanding and Managing America’s Obesity Epidemic
• PSYC 337: Stress and Coping
• PSYC 245: Health Psychology

R Track: Cultural and Literary Representations of Health and Illness (e.g. Medical Anthropology):
• ANTH 224: Microbes, Animals and Humans
• ICPR 223: Mental Affliction: The Disease of Thought
• PICPR 302: Bodies of Injustice: Health, Illness and Healing in Contexts of Inequality
• ANTH 200: Viruses, Humans, Vital Politics: An Anthropology of HIV & AIDS
• ICPR 281: Violence and Public Health

S Track: Responses of Familial, Social, Civic and Governmental Structures to Issues of Health and Disease (e.g. History of Medicine in Africa):
• ICPR 302: Bodies of Injustice: Health, Illness and Healing in Contexts of Inequality
• PSYC 327: Supersized Nation: Understanding and Managing America’s Obesity Epidemic
• ANTH 200: Viruses, Humans, Vital Politics: An Anthropology of HIV & AIDS
• ICPR 281: Violence and Public Health

STUDY ABROAD

Health studies is distinguished by its investigation of how local conditions of health and disease are shaped by interconnected global forces and processes, such as (im)migration, traveling microbes, war and conflict, and international humanitarian projects. The program encourages students to take advantage of the many opportunities for enriching their academic work through independent research and/or internships, in both domestic and international settings. These opportunities will help students face the challenges of integrating data and theory into their hands-on work in medicine and public health, in both clinical and community settings. Haverford students may seek support through Haverford’s Center for Peace and Global Citizenship (CPGC), from the John B. Hurford ’60 Center for the Arts and Humanities (HCAH), or the Koshland Integrated Natural Sciences Center (KINSC).

Health studies students have taken advantage of a rich array of international internships, including programs in Mexico, Nicaragua, Uganda, South Africa and Thailand.

FACULTY

At Haverford:
Christopher Roebuck
Anthropology, Health Studies Coordinator (Fall)

Kaye Edwards
Independent College Programs, Health Studies Coordinator (Spring)

Karin Åkerfeldt
Chemistry

Richard Ball
Economics

Kimberly Benston
English

Susan Benston
English

Frances Blase
Chemistry

Haverford College Catalog 2016-2017
HEALTH STUDIES MINOR

Louise Charkoudian
Chemistry

Rebecca Compton
Psychology

Robert Fairman
Biology

Andrew Friedman
History

Victoria Funari
Independent College Programs

Darin Hayton
History

Kristin Lindgren
Writing Program

Philip Meneely
Biology

Weiwen Miao
Mathematics and Statistics

Zolani Ngwane
Anthropology

Zachary Oberfield
Political Science

Judith Owen
Biology

Jaclyn Pryor
English

Carol Schilling
Independent College Programs

Aleksandra Snyder
Biology

Terry Snyder
Librarian of the College

Jill Stauffer
Peace, Justice and Human Rights

Jeanne Vaccaro
Peace, Justice and Human Rights

Thomas Wadden
Psychology

Affiliated Faculty at Bryn Mawr:
Susan White
Chemistry, Co-Director of Health Studies

Kalala Ngalamulume
Africana Studies, History, Co-Director of Health Studies

William Alpert
Psychology

Sara Bressi
Social Work

Tamara Davis
Biology

Victor Donnay
Mathematics, Environmental Studies

Marissa Golden
Political Science

Erica Graham
Mathematics

Karen Greif
Biology

Carol Hager
Political Science

Yan Kung
Chemistry

Rudy Mentheour
French

Bill Malachowski
Chemistry

Melissa Pashigian
Anthropology

Laurel Peterson
Psychology

Leslie Rescorla
Psychology
HEALTH STUDIES MINOR

Marc Schulz
Psychology

Maja Seselj
Anthropology

Cindy Sousa
Social Work

Elly Truitt
History

COURSES

HLTHH115 INTRODUCTION TO HEALTH STUDIES
Judith Owen, Christopher Roebuck
The multidisciplinary foundation for the health studies minor. Students will be introduced to theories and methods from the life sciences, social sciences, and humanities and will learn to apply them to problems of health and illness. Topics include epidemiological, public health, and biomedical perspectives on health and disease; social, behavioral, and environmental determinants of health; globalization of health issues; cultural representations of illness; health inequalities, social justice, and the ethics of health as a human right. Crosslisted: ICPR; Social Science (SO)

HLTHH200 VIRUSES, HUMANS, VITAL POLITICS: AN ANTHROP OLOGY OF HIV & AIDS
Christopher Roebuck
This course provides a theoretical foundation for cultural analyses and responses to HIV & AIDS. Topics include the history of HIV & AIDS and their epidemiological trends; medical and public health responses in various (inter)national settings; structural factors shaping vulnerability and access to prevention and treatment; local and global AIDS activism; social stigma, discrimination, and criminalization; discourses of human rights, humanitarianism, and citizenship; and representations of risk, sickness, and care. Prerequisite(s): Introduction to Anthropology or related social science; Crosslisted: Anthropology; Social Science (SO)

HLTHH204 MEDICAL SOCIOLOGY
Staff
This course will cover how definitions of health and illness are socially constructed, vary by culture, and change over time. The topics in this course include mental health, health care reform, market-based approaches to health, obesity and eating, sports injuries, sexual dysfunction, and the new MCAT section in social science, among others. Crosslisted: Sociology; Social Science (SO)

HLTHH208 DISABILITY AND SUPERABILITY ON SCREEN: FROM BIOETHICS TO SOCIAL JUSTICE
Carol Schilling
Focusing on representations in film, this course examines ethical questions emerging from medical and social responses to disabilities and superabilities and the consequences of those responses for human culture and for individual lives. Social Science (SO)

HLTHH209 ABNORMAL PSYCHOLOGY
Elizabeth Gordon
A review of major clinical and theoretical literature pertaining to the definition, etiology, and treatment of important forms of psychopathology. Prerequisite(s): PSYC 100 or consent. Crosslisted: Psychology; Social Science (SO)

HLTHH213 BIOETHICS & SOCIAL JUSTICE
Christopher Roebuck
This course offers social science perspectives on bioethics. It takes as its object of investigation bioethics itself and the conditions of its possibility and emergence in the last 50 years as a complex, netting together a growing assembly of actors, objects, relations, sites, and issues under the aegis of the good and the just in science and medicine. But how is the good and just defined; by whom; why; and with sorts of consequences for life and death, health and illness, survival and injury? Topics (i.e., problems, questions, case studies) include definitions of life, death, personhood; access to medical care and pharmaceuticals; biological experimentation and pharmaceutical trials; sex and the body; race, gender, and medical discrimination; health equity, social justice, and human rights. Prerequisite(s): one course from the division of Social Sciences; Social Science (SO)

HLTHH218 EXPERIENCING AND RESPONDING TO ILLNESS AND DISABILITY: 1793-1930
Staff
Multidisciplinary exploration of the relationship between shifting paradigms in 19th-century medical science and public health, and social, cultural, artistic and architectural responses. Readings included secondary historical and
theoretical narratives and primary sources. Prerequisite(s): HLTH 115 or permission of instructor; Crosslisted: ICPR; Humanities (HU)

**HLTHH221 EPIDEMIOLOGY AND GLOBAL HEALTH**

*Staff*

This course will examine the interplay of biomedical, societal, and ethical concerns in global health. A unit on epidemiology will provide the analytical tools to measure effectiveness of various public health responses. Case studies will highlight the impact of medical science, economics, culture, and politics on public health in different countries. Prerequisite(s): college-level biology course; a course in statistics is recommended; Crosslisted: ICPR, Natural Science (NA)

**HLTHH223 MENTAL AFFLICTION: THE DISEASE OF THOUGHT**

*Susan Benston*

Drawing on illness memoirs, literary fiction, case histories, and essays in neuroscience, physics, and philosophy of mind, this course will explore how far the vehicle of language can transport us into turbulent mental landscapes without itself breaking down. The syllabus will feature selections from numerous authors such as Nancy Andreasen, John Barth, Samuel Beckett, Jorge Luis Borges, Robert Coover, Antonio Damasio, Daniel Dennett, Julie Holland, Clarice Lispector, Vladimir Nabokov, Thomas Nagel, Steven Pinker, Fernando Pessoa, Elyn Saks, Lawrence Shainberg, Max Tegmark, and Lu Xun. Crosslisted: ICPR; Humanities (HU)

**HLTHH224 MICROBES–ANIMALS–HUMANS: ETHNOGRAPHIC ADVENTURES IN MULTISPECIES WORLDS**

*Christopher Roebuck*

The course invites an anthropological engagement with what has been termed critical animal studies and the “turn to the animal.” This is a budding multidisciplinary field that investigates relations among human and non-human actants, and the shape of interspecies living. The course contends with relationships between “the human” and “the animal”, their ethical implications, and their social, political, and ecological effects in contemporary lifeworlds. We grapple with the complex, often contradictory, and always fragile interdependences of earthly life. Prerequisite(s): 100-level course in anthropology, health studies, environmental studies or related social sciences; Crosslisted: ANTH, ENVS; Social Science (SO)

**HLTHH225 BRING YOUR OWN BODY: TRANSGENDER BETWEEN ARCHIVES AND AESTHETICS**

*Jeanne Vaccaro*

How do we read, record and write histories and practices of sexual difference—in the archives, a queer bar, or an art gallery? This seminar examines the relationship between queer politics and archival methods. Together we will both study and theorize the study of gender and sexuality as intersecting with the personal investments of identity politics. Through organized visits to archives and special collections, students will learn practical and conceptual strategies for pursuing research in sexuality studies; we will then shift into an exploration of counter archives, paying special attention to ephemeral objects, material culture, digital media, quotidian aesthetics, and subcultural scenes in the making of queer knowledge. The exhibition *Bring Your Own Body* (Cantor Fitzgerald Galley, October 21—December 16, 2016) will serve as a both case study and laboratory, with programming augmenting class readings. Crosslisted: ICPR, Peace, Justice, and Human Rights; Humanities (HU)

**HLTHH233 COMMUNITY ENGAGEMENT AND SOCIAL RESPONSIBILITY**

*Kaye Edwards*

Seminar for students engaged in community placements within the Philadelphia region through offices and programs in the Bi-Co. Students will analyze their community experiences in light of theories of injustice, direct service, and social transformation. Prerequisite(s): students will be selected based on instructor evaluation of written applications. Crosslisted: ICPR; Social Science (SO)

**HLTHH245 HEALTH PSYCHOLOGY**

*Thomas Wadden*

Explores psychological processes that influence health, from a socio-structural perspective. Topics include: personality and disease, stress and illness, chronic health conditions, health promotion and disease prevention through behavior change, and the importance of lifestyles and social environment. Prerequisite(s): PSYC 100 or equivalent Crosslisted: PSYC; Social Science (SO)

**HLTHH260 CULTURES OF HEALTH AND HEALING: AN INTRODUCTION TO MEDICAL ANTHROPOLOGY**

*Christopher Roebuck*
HEALTH STUDIES MINOR

Are our bodies, ourselves lively artifacts? How do social, cultural and political forces shape health, illness and survival as well as understandings and experiences of “the body”? This introductory course in medical anthropology approaches these questions by examining ethnographic studies and cross-comparative analyses. Topics include diverse concepts of disease etiology and healing practice; theories of embodiment and somatization; ethnomedicine, medical pluralism, and (bio)medicalization; structural violence, inequalities, and social suffering; political and moral economies of global health and medical humanitarianism; HIV/AIDS and other infectious diseases; and effects of new medical technologies on how “we” live and die. Crosslisted: ANTH; Social Science (SO)

HLTHH281 VIOLENCE AND PUBLIC HEALTH
Kaye Edwards
An interdisciplinary seminar course analyzing the advantages and limitations of a public health perspective on violence. We will examine how everyday violence, direct political violence, and structural violence effect public health, as well as evidence that violence is preventable and amenable to public health strategies. Social Science (SO)

HLTHH301 ADVANCED GENETIC ANALYSIS
Philip Meneely
The molecular mechanisms governing the transmission, mutation and expression of genes. Particular emphasis is placed on the use of experimental genetic methods to analyze other areas of biology. Prerequisite(s): BIOL 200 or equivalent or consent; Crosslisted: BIOL; Natural Science (NA)

HLTHH302 BODIES OF INJUSTICE: HEALTH, ILLNESS AND HEALING IN CONTEXTS OF INEQUALITY
Carol Schilling
For students returning from internship experiences who wish to deepen their understanding of social justice, health, and healthcare. The course integrates experiential learning with humanities and social medicine readings on witnessing and representing inequalities, cultural conceptions of health, structural determinants of health, and addressing health inequalities in the United States and other countries. Structural determinants include education, food resources, markets, medical and social services, governments, environments, transportation, cultures, languages, and more. Crosslisted: ICPR; Social Science (SO)

HLTHH304 CRITICAL DISABILITY STUDIES: THEORY AND PRACTICE
Kristin Lindgren
An examination of work in critical disability studies across a range of humanistic disciplines and an exploration of how disability theory and engaged community practice inform and shape one another. Includes a semester-long project in partnerships with the Center for Creative Works, a community artspace for artists with intellectual disabilities. Prerequisite(s): students will be selected based on instructor evaluation of written applications; Humanities (HU)

HLTHH308 IMMUNOLOGY
Aleksandra Snyder
This course will provide an introduction to the rapidly expanding discipline of immunology. Students will learn about the molecular and cellular basis of the immune response through the study of the genetics and biochemistry of antigen receptors, the biochemistry of immune cell activation, the cell physiology of the immune system, immune memory, immune tolerance induction and immune-mediated cell death. Prerequisite(s): BIOL 200 or consent; Crosslisted: BIOL; Natural Science (NA)

HLTHH310 POLITICAL TECHNOLOGIES OF RACE AND THE BODY
Andrew Friedman
This course examines the technologies, ideologies, and material strategies that have created and specified human beings as racialized and gendered subjects in the U.S. Readings cover biopolitics, disability studies, material culture, histories of disease, medicine, violence and industrialization. In our discussions and research, we will aim to decode the production of “reality” at its most basic and molecular level. Crosslisted: HIST; Social Science (SO)

HLTHH318 NEUROBIOLOGY OF DISEASE
Staff
A survey of disorders of the central nervous system, providing both a clinical perspective on the disease and research-based outlook focused on the pathophysiological mechanisms that underlie the disease state. Prerequisite(s): PSYC 217, 260, or
HEALTH STUDIES MINOR

Bryn Mawr PSYC 218; Crosslisted: PSYC; Natural Science (NA)

HLTHH327 SUPERSIZED NATION: UNDERSTANDING AND MANAGING AMERICA'S OBESITY EPIDEMIC
Thomas Wadden
An examination of the causes and consequences of obesity at individual and societal levels. Focuses on mechanisms of body weight regulation along with the wide-scale changes in diet, eating habits, and physical activity that have contributed to the obesity epidemic. Prerequisite(s): PSYC 100 or PSYC BMC 105 or Psychology AP Score 4+, and one topical 200-level Psychology course (i.e., not PSYC 200, BMC 205); Crosslisted: PSYC; Social Science (SO)

HLTHH337 STRESS AND COPING
Shu-wen Wang
An examination of theory and research on stress and coping processes, and their links with disease and mental health. Students will also learn and apply stress management techniques. Prerequisite(s): PSYC 100 or PSYC BMC 105 or Psychology AP Score 4+, and one topical 200-level Psychology course (i.e., not PSYC 200, BMC 205). Crosslisted: PSYC; Social Science (SO)
Modern Hebrew language instruction is available at Bryn Mawr through the elementary level. Students may take Intermediate Modern Hebrew at the University of Pennsylvania. At Swarthmore College biblical Hebrew is offered in a two-semester sequence through the first-year level, and additional reading in Classical Jewish texts is available in directed reading, one-half-credit courses. At Haverford, Judaic Studies courses are offered by the Department of Religion. Bryn Mawr also offers several courses which complement Haverford’s offerings in Judaic Studies. All of these courses are listed in the Tri-Co Course Guide under the heading “Hebrew and Judaic Studies.”

**FACULTY**

Grace Armstrong  
Eunice M. Schenck 1907 Professor of French and Director of Middle Eastern Languages and and Co-Director of the International Studies Program (fall)

Nechama Sataty  
Visiting Assistant Professor

**COURSES**

HEBR B001 ELEMENTARY HEBREW  
Nechama Satay  
This year-long course is designed to teach beginners the skills of reading, writing, and conversing in Modern Hebrew. It will provide students with knowledge of the Hebrew writing system—its alphabet (Square letters for reading, cursive for writing) and vocalization—as well as core aspects of grammar and syntax. Diverse means will be utilized: textbook, supplementary printed material, class conversations, presentations by students of dialogues or skits that they prepare in advance, and written compositions. This course, followed by Semesters 3 and 4 taken elsewhere, lays a foundation for reading of Modern Hebrew literary works. Approach: course does not meet an Approach. (Fall 2016)

HEBR B002 ELEMENTARY HEBREW  
Nechama Satay  
This is a continuation of HEBR B001, year-long course is designed to teach beginners the skills of reading, writing, and conversing in Modern Hebrew. It will provide students with knowledge of the Hebrew writing system—its alphabet (Square letters for reading, cursive for writing) and vocalization—as well as core aspects of grammar and syntax. Diverse means will be utilized: textbook, supplementary printed material, class conversations, presentations by students of dialogues or skits that they prepare in advance, and written compositions. This course, followed by Semesters 3 and 4 taken elsewhere, lays a foundation for reading of Modern Hebrew literary works. Approach: course does not meet an Approach. (Spring 2017)

HEBR B403 SUPERVISED WORK  
(Fall 2016)

ITAL B211 PRIMO LEVI, THE HOLOCAUST, AND ITS AFTERMATH  
Nicholas Patruno  
A consideration, through analysis and appreciation of his major works, of how the horrific experience of the Holocaust awakened in Primo Levi a growing awareness of his Jewish heritage and led him to become one of the dominant voices of that tragic historical event, as well as one of the most original new literary figures of post-World War II Italy. Always in relation to Levi and his works, attention will also be given to Italian women writers whose works are also connected with the Holocaust. Course is taught in English. An extra hour will be scheduled for those students taking the course for Italian or Romance Languages credit. Approach: Cross-Cultural Analysis (CC). (Fall 2016)

POLC B283 INTRODUCTION TO THE POLITICS OF THE MODERN MIDDLE EAST AND NORTH AFRICA  
Sofia Fenner  
This course is a multidisciplinary approach to understanding the politics of the region, using works of history, political science, political economy, film, and fiction as well as primary sources. The course will concern itself with three broad areas: the legacy of colonialism and the importance of international forces; the role of Islam in politics; and the political and social effects of...
HEBREW & JUDAIC STUDIES AT BRYN MAWR COLLEGE

particular economic conditions, policies, and practices. Approach: Cross-Cultural Analysis (CC)
Counts towards: Middle Eastern Studies. (Spring 2017)
The Haverford History Department encourages students to explore the curriculum and master skills in what we might consider three broad areas of pursuit: i) Evidence ii) Experience and iii) Epistemology.

Students in history approach the study of the past through an immersion in materials and evidence, analysis and interpretation, creativity and imaginative endeavor. Our classes emphasize creativity and conceptual thinking rooted in fact and historical complexity. Primary sources permeate our curriculum. They are gateways to a three-dimensional world, keys to unlock the study of the past. We also focus on individual student creativity, both in the exploration of the curriculum and in student work. Students in history can pursue their own intellectual questions and concerns, ones they develop with faculty through their time at the College. Because of the roles creativity and the creative arts play the department, history at Haverford is a strong home for students with an interest in interdisciplinary studies. Professors in the department work with literature, art, music, architecture, material objects and languages, analyzing what happens at the intersection between aesthetics and political culture.

Students in history practice history. They engage in the production of historical knowledge. We send students out into the world to work on real projects of their own making. We have internal and external grants to support them in that work. Students learn how to design and execute independent research projects on their own initiative, moving between collective experiences and individual scholarly reflective work. In history, we work seriously with students over the course of the major on writing and revision. Our classes are often writing intensive. We take our craft seriously—the overlap between writing and thinking, form and meaning. That extends through the consistent training students in our major receive in writing and revision in its grandest sense.

The curriculum builds cumulatively to train students in skills in writing and analysis from their first year to their last, in concert with their studies abroad and interdisciplinary engagements with other departments. Students in history do rich, complexly imagined and robust work in French, Chinese, Spanish, German, Russian, Greek, and Latin, among others. They learn to critique and confront the culture of which they’re learning the language, to put it in the context of other historical forces, and to illuminate the power relationships inherent in all societies. In history, students do not just think in another language, but across languages. They animate linguistic study through critical scholarly and pragmatic application, emphasizing the foreignness of any culture and the past itself.

History in this department starts from questions. Our classes emphasize deep time, historical debates and the roots of historical problems. History students examine how philosophies, political systems, and social orders are historically contingent. Students gain a sense that there might have been and might still be other outcomes.

History is also then a kind of social critique. If every moment in the present is temporary, and what today is modern, tomorrow is “unmodern,” the major encourages students to ask questions about the necessity of the present.

Students in history enter a dialogue between present and past, considering consciously where they stand in the flow of time. Rather than striving for certainty, history is thus often about estrangement. Students study the horizons of opportunity available to people at different times and places, how those horizons shift, and how individuals navigate within those constraints. Through these approaches, the major fundamentally encourages empathy with difference. History teaches humility and the art of listening. It seeks to understand the full dimensions of human actors in the past.

LEARNING GOALS
In history courses students:
• master a foundation of knowledge about specific places and societies over time.
• think critically about the nature and production of historical knowledge.
• broaden and master research skills.
• learn disciplinary writing skills using evidence and crafting persuasive arguments.
HISTORY

CURRICULUM
History courses foster analysis and interpretation of the past and emphasize the development of cultures and ideas over the accumulation of facts. Courses offer students opportunities to pursue creative studies and develop their critical reading and writing skills.

MAJOR REQUIREMENTS
To complete the history major, students must take eleven courses distributed across the history curriculum.

Students take any two 100-level courses, which introduce both historical materials and the skills we expect in the major.

They then take seven 200- and 300-level courses, of which at least two must be 300-level seminars. Students should take at least one of their 300-level seminars by the second semester of the junior year. Students select courses from different fields of concentration, e.g., European history, U.S. history, East Asian history, Latin American history, history of science and medicine. Students can also design a field based on courses offered at Haverford, Bryn Mawr, and Swarthmore. Students who study overseas often take advantage of courses abroad to enrich their major. All majors must complete three geographic, temporal or thematic fields by taking two courses (above the 100 level) within a field to complete that field requirement.

Over the course of their senior year, all history majors write a year-long, i.e., two-semester, senior thesis, as described below. During the fall they complete their research in the thesis seminar. In the spring they work one-on-one with their faculty advisers to write and revise their theses.

SENIOR PROJECT
The senior thesis in the Department of History is a year-long, two-credit research project on a topic the student chooses to investigate. In completing a thesis, history students conduct original research and craft an extended argument. The senior thesis project occurs in three steps.

Preliminary Work:
In the spring semester of their junior year, history majors work with faculty mentors to compose an initial thesis proposal that articulates a specific research question. In light of faculty feedback, students often spend the summer before their senior year doing initial archival research and mastering the relevant historical literature.

Research and Analysis:
In the fall semester of their senior year, students enroll in HIST 400A, a weekly seminar that gives students an opportunity to identify, survey, and analyze the sources they will use in their thesis and to review the relevant scholarship. In this seminar students complete a series of assignments that help them conceptualize, research, and begin drafting their thesis. Assignments include: a revised thesis proposal, analysis of a primary source related to their thesis, critical review of the scholarly literature relevant to their topic, and a thesis prospectus that defines their thesis topic, describes their evidence, and outlines their argument.

Writing:
In the spring semester students enroll in HIST 400B, a supervised research and writing seminar that builds on the work they completed in fall semester. Working under the guidance of faculty advisers, students draft and revise their theses, submitting sections throughout the semester. Once they have drafted the different sections, they revise the entire thesis and submit a polished final draft. A history thesis is typically around 60 pages. After handing in the final version, students present their theses in an oral defense to their faculty advisers.

Senior Project Learning Goals
As a capstone experience, the senior thesis in history hopes to achieve complementary goals:

Research:
- Conceptualize a research question.
- Make a historical argument.
- Identify and master relevant scholarship.
- Locate and analyze primary source materials.

Writing:
- Develop a cogent argument.
- Use evidence to support the argument
- Write clearly and compellingly.
- Adhere to professional standards for style, citations, and formatting.

Oral Defense:
- Present a concise version of the thesis's argument.
HISTORY

• Respond to questions about the thesis’s structure, evidence, or conclusions.
• Explain the argument’s importance or relevance.
• Speak fluidly and authoritatively about the thesis.

Senior Project Assessment
A student’s faculty advisers collectively assess the thesis project (written and oral components) on the following criteria:
• Conceptualization of Research Question and Historical Argument: students acknowledge and explore the full implications of an innovative thesis question.
• Familiarity with and Understanding of Primary Texts: students engage primary sources to answer their research question and display a creative approach to existing sources or bring new and illuminating sources to bear on their research question.
• Engagement with Secondary Literature: students demonstrate mastery of scholarly literature that pertains to their thesis topic by synthesis of and contribution to the scholarly conversation.
• Methodological and Theoretical Approach: students ground their theses in current knowledge about their historical period, demonstrating a thorough understanding of relevant methodological and theoretical issues.
• Quality of Argument: students construct a well-reasoned, well-structured, and clearly expressed argument.
• Clarity of Writing: writing is consistently engaging, clear, well organized, and enjoyable to read.
• Oral Presentation: at the end of the semester, students demonstrate comprehensive understanding of their topic in an articulate and engaging presentation and are able to provide innovative and thoughtful answers to questions. Student demonstrates capacity to connect thesis project to prior coursework in history and related disciplines.

A style guide, along with suggestions for defining a thesis topic, is available on the departmental web page.

REQUIREMENTS FOR HONORS
Honors in history will be granted to those senior majors who, in the department’s judgment, have combined excellent performance in history courses with an excellent overall record. Typically, a grade of 3.7 or higher in a history course reflects honor-quality work.

CONCENTRATIONS AND INTERDISCIPLINARY MINORS
History students often combine their study of the past with various complementary subjects, such as East Asian Studies, Latin American Studies, religion, or art history. Students have also found generative links between their study of history and interdisciplinary areas, including Environmental Studies, Museum Studies, and the Growth and Structure of Cities.

STUDY ABROAD
History students are encouraged to study abroad. In addition to acquiring fluency in a foreign language, students abroad benefit from exposure to other historical approaches and the proximity to rich archival resources. The history major is designed to facilitate such study abroad.

FACULTY
Darin Hayton
Chair & Associate Professor
Paul Farber
Visiting Assistant Professor
Andrew Friedman
Associate Professor
Linda Gerstein
Professor
Nicholas Gliserman
Visiting Assistant Professor
Lisa Graham
Frank A. Kafker Associate Professor
Alexander Kitroeff
Associate Professor
James Krippner
Professor
Emma Lapsansky-Werner
Emeritus Professor of History; Emeritus Curator of the Quaker Collection
**HISTORY**

**Bethel Saler**  
Associate Professor

**Paul Smith**  
John R. Coleman Professor of Social Sciences

**Terry Snyder**  
Visiting Associate Professor

**COURSES**

**HISTH111 INTRODUCTION TO WESTERN CIVILIZATION**  
*Lisa Graham, Linda Gerstein*

The fall-semester course is a survey of Western Civilization from the fall of Rome to the sixteenth century. It focuses on the institutional and intellectual dimensions of the western tradition, by closely interrogating both primary sources and secondary accounts. The second semester of this course (which may be taken independent of the first semester) picks up at the beginning of the sixteenth century and goes to the present. It explores the development of the modern European world. Social Science (SO)

**HISTH114 ORIGINS OF THE GLOBAL SOUTH**  
*James Krippner*

This course examines the first phase of “globalization” in world history, covering approximately the years from 1300-1800. During the first half of the semester, we will analyze the interconnections and distinct trajectories of core regions within the ancient and medieval world, focusing on Asia, Africa and the Americas. In the second half of the semester we will assess the economic, social and cultural relationships negotiated during the emergence of Iberian (Portuguese and Spanish) colonialism and the redefinition of the Atlantic World in the centuries following 1492. The course concludes with an intensive study of the Haitian Revolution (1791-1804), the first successful anti-colonial revolution in world history and one of several late-eighteenth century popular rebellions signaling the dawn of modernity. Social Science (SO)

**HISTH115 POSTCARDS FROM THE ATLANTIC WORLD**  
*Bethel Saler*

An exploration of the movement of peoples, goods and ideas across the four continents that border the Atlantic basin (Africa, Europe, North America and South America) over the transformative periods of exploration and empire from the fifteenth to the nineteenth centuries. Social Science (SO)

**HISTH117 MODERN MEDITERRANEAN HISTORY**  
*Alexander Kitroeff*

This course examines the ways the countries & peoples of the Mediterranean region—Southern Europe, North Africa and the Middle East—responded the main events & trends in the C19th-20th: the French Revolution, the Industrial Revolution, nationalism, imperialism, fascism, the two world wars, the Cold War, anti-colonialism. The Mediterranean lies between Europe, Africa and Asia geographically but also in a normative sense, representing a region whose historical trajectory echoed that of the developed West but also the colonized, less developed East. Its study, therefore, enables students to understand the main historical trends in the modern era on a global scale. Social Science (SO)

**HISTH118 INTRODUCTION TO THE HISTORY OF SCIENCE**  
*Darin Hayton*

Although science is an essential characteristic of the modern world, it took nearly 4000 years to attain that status. This course surveys various sciences in the past focusing on both how and why humans have interrogated the natural world, how they have categorized the resulting knowledge, and what uses they have made of it. Topics can include science and medicine in antiquity, Islamic sciences, Byzantine and medieval sciences, early-modern science and the Scientific Revolution. Social Science (SO)

**HISTH119 INTERNATIONAL HISTORY OF THE UNITED STATES**  
*Andrew Friedman*

This course surveys the international history of the United States in the 20th century. It encourages students to conceptualize U.S. history as a series of transnational encounters and systems that transcend national borders. Capitalism, the environment, postcolonialism and Third Worldism, “Atlantic crossings,” modernity, imperialism, diaspora and migration, world war, travel, United Nations and “Our America” serve as organizing motifs. In considering the history of this country outside its formal borders, students will gain a facility with the languages of hemispheric and global imagining that structure the pursuit of contemporary U.S. history, while sharpening
analytical skills working with primary texts. Social Science (SO)

HISTH120 CONFUCIANIZING CHINA: INDIVIDUAL, SOCIETY, AND THE STATE
Paul Smith
A survey of philosophical, literary, legal, and autobiographical sources on Chinese notions of the individual in traditional and modern China. Particular emphasis is placed on identifying how ideal and actual relationships between the individual and society vary across class and gender and over time. Special attention will be paid to the early 20th century, when Western ideas about the individual begin to penetrate Chinese literature and political discourse. Social Science (SO)

HISTH200 MAJOR SEMINAR: APPROACHES TO THE STUDY OF EAST ASIAN CULTURES
Hank Glassman, Paul Smith
This course introduces current and prospective majors and minors to ways of studying East Asian cultures. It employs readings on East Asian history and culture as a platform for exercises in critical analysis, bibliography, cartography and the formulation of research topics and approaches. It culminates in a substantial research essay. Required of East Asian Languages and Cultures majors and minors, but open to others by permission. The course should usually be taken in the spring semester of the sophomore year. This course satisfies the EALC departmental writing requirement. Prerequisite(s): required of East Asian Languages and Cultures majors and minors; open to History majors and other interested students. Crosslisted: East Asian Languages and Cultures; Humanities (HU)

HISTH203 THE AGE OF JEFFERSON AND JACKSON, 1789-1850
Bethel Saler
This course charts the transformation in American political institutions, economy, and society from the ratification of the Constitution to the eve of the Civil War. Often identified as the crucial period when the American nation cohered around a national culture and economy, this period also witnessed profound social rifts over the political legacy of the American Revolution, the national institutionalization of slavery, and the rise of a new class system. We will consider the points of conflict and cohesion in this rapidly changing American nation. Social Science (SO)

HISTH204 HISTORY OF GENDER AND U.S. WOMEN TO 1870
Bethel Saler
This course surveys the history of American women from the colonial period through 1870. We will consider and contrast the lives and perspectives of women from a wide variety of social backgrounds and geographic areas as individuals and members of families and communities, while also examining how discourses of gender frame such topics as colonization, slavery, class identity, nationalism, religion, and political reform. Social Science (SO)

HISTH208 COLONIAL LATIN AMERICA
James Krippner
Are you interested in understanding Latin America? If so, you must understand the colonial era. Spanish and Portuguese rule of the region lasted more than three centuries—in most countries from 1492 until the early 1820’s, and in Cuba and Puerto Rico until 1898—and the legacies of colonial rule have conditioned social relations, economic life, culture, and political conflict up until the present. This course will provide a thorough and regionally varied introduction to the multi-faceted history of colonial Latin America, beginning with an introduction to the indigenous civilizations existing prior to Iberian expansion and ending with popular upheavals that marked the end of the eighteenth century. Social Science (SO)

HISTH209 MODERN LATIN AMERICA
James Krippner
Social Science (SO)

HISTH215 SPORT AND SOCIETY
Alexander Kitroff
This course examines the interrelationship of sport and society from a historical perspective and on a global scale, from the late C19th to the early C21st with a focus on the Olympics and the World Cup. It is divided into three segments. The first consists of a history of modern sport focused thematically on key issues that have shaped the interrelationship of sport & society. The second segment introduces students to the history & historiography of the modern Olympics and the World Cup. In the third segment we will discuss the use of primary materials in the study of sports and then students will select their own Olympic Games-related topic on which they will make an in-class presentation and write a research-based paper. Prerequisite(s):
one social science introductory course; Social Science (SO)

HISTH223 OLD AGE IN THE MODERN AGE
*Terry Snyder*
This course provides a survey on the history of aging in the United States from the seventeenth through the twentieth century. The class will examine broad consideration of aging through lenses of historical, community, and care perspectives. It will begin with introductory context of age inventions regarding childhood, adolescence and middle age/mid-life. We will look at shifting theories and attitudes on age. We will examine issues of demographics and poverty among the elderly, as well as health care and social assistance programs. Further investigation on the impact or roles of race, ethnicity and religion will be considered. We will explore the influence of industrialization, retirement, and experience in shaping ideas of age and the lived experience. Finally, we will examine these ideas on aging through a close reading of historical case studies of past and current Philadelphia CCRC’s (Continuing Care and Retirement Communities). Social Science (SO)

HISTH225 EUROPE: 1870-1914
*Linda Gerstein*
Topics included are Marxism, the Dreyfus Affair, Imperialism, Sexual Anxiety, and Art Nouveau. Social Science (SO)

HISTH226 TWENTIETH CENTURY EUROPE
*Linda Gerstein*
The emergence of the culture of Modernism; revolutionary dreams and Stalinist nightmares in Russia; Fascism; the trauma of war 1914-1945; the divisions of Cold War Europe; and the challenge of a new European attempt at re-integration in the 1990s. Social Science (SO)

HISTH229 CULTURES OF POWER IN EARLY MODERN EUROPE
*Lisa Graham*
Social Science (SO)

HISTH231 THE AGE OF ENLIGHTENMENT
*Lisa Graham*
This course approaches the Enlightenment as a process of political and cultural change rather than a canon of great texts. Special emphasis will be placed on the emergence of a public sphere and new forms of sociability as distinguishing features of 18th century European life. Social Science (SO)

HISTH237 GEOGRAPHIES OF WITCHCRAFT AND THE OCCULT IN EARLY MODERN EUROPE
*Darin Hayton*
Rather than dismiss witchcraft and the occult sciences as irrational beliefs, this course investigates them within the context of early modern Europe to understand them as rational practices. How did people defend magic and what evidence did they invoke? Why did people accuse each other of practicing witchcraft? How were arguments for and against occult practices related to religious, political, and geographic contexts? What role did ideas about gender and social roles play in ideas about witches, necromancers, and sorcerers? Equally important for this class: If we no longer accept these practices as valid, why do we still care today? Social Science (SO)

HISTH240 HISTORY AND PRINCIPLES OF QUAKERISM
*Emma Lapsansky*
The development of Quakerism and its relationship to other religious movements and to political and social life, especially in America. The roots of the Society of Friends in 17th-century Britain, and the expansion of Quaker influences among Third World populations, particularly the Native American, Hispanic, east African, and Asian populations. Social Science (SO)

HISTH241 VISUAL HISTORIES OF THE CIVIL RIGHTS MOVEMENT
*Paul Farber*
This course examines the history of the U.S. civil rights movement through the framework of visual culture. We will explore historical dynamics of racial struggle, spectacle, and social action within the fields of photography, film, television, and print culture. Social Science (SO)

HISTH244 RUSSIA FROM 1800-1917
*Linda Gerstein*
Topics considered include the culture of serfdom, Westernization, reforms, modernization, national identities, and Revolution. Social Science (SO)

HISTH245 RUSSIA IN THE 20TH CENTURY
*Linda Gerstein*
Continuity and change in Russian and Soviet society since the 1890s. Major topics: the
revolutionary period, the cultural ferment of the 1920s, Stalinism, the Thaw, the culture of dissent, and the collapse of the system. Humanities (HU)

HISTH254 HARVEST OF EMPIRE: U.S. HISTORY, 1898-PRESENT
Andrew Friedman
In this interdisciplinary course, students will study the history of U.S. foreign policy and the history of U.S. migration as a single body of national experience. Conceiving the international history of the country broadly, we will explore how the U.S. formed itself and how it was formed as a nation in a world context. Social Science (SO)

HISTH259 COLLECTING AND DISPLAYING NATURE
Darin Hayton
Collecting, classifying and displaying natural artifacts acquired new significance in early-modern Europe and played an important role in the development of modern science. This course explores the motivations and contexts for such collecting and classifying activities. Social Science (SO)

HISTH264 MATERIALITY AND SPECTACLE IN NINETEENTH CENTURY UNITED STATES
Terry Snyder
Spectacles reflect, influence, and change cultural experiences, meaning, and understanding. This course will consider the materiality of spectacular nineteenth century US events through critical examination of historical accounts, primary research, and close readings of objects. Crosslisted: ANTH; Social Science (SO)

HISTH268 WAR AND MILITARY CULTURE IN CHINA
Paul Smith
This course surveys the role of war and the tension between civil and martial values in Chinese history, the place of China’s military arts and sciences in global history, and literary and biographical representations of China’s experience of war. Prerequisite(s): sophomore standing or higher; Crosslisted: East Asian Languages & Cultures; Social Science (SO)

HISTH308 HOW TO BUILD A MONUMENT
Paul Farber
A history of modern monuments explored through case studies of form, function, and public debate. We will focus on 1876–present, at both U.S. and transnational sites of memory, in order to examine shifts in national and civic monumental practices. Social Science (SO)

HISTH310 POLITICAL TECHNOLOGIES OF RACE AND THE BODY
Andrew Friedman
This course examines the technologies, ideologies, and material strategies that have created and specified human beings as racialized and gendered subjects in the U.S. Readings cover biopolitics, disability studies, material culture, histories of disease, medicine, violence and industrialization. In our discussions and research, we will aim to decode the production of “reality” at its most basic and molecular level. Crosslisted: HLTH; Social Science (SO)

HISTH317 RELIGION, POWER AND POLITICS IN LATIN AMERICA
James Krippner
This course analyzes the connections between religion, power and politics across Latin America from the sixteenth century through the recent past. Topics to be considered include Christianity and colonization; the Inquisition and religious persecution; abolitionism and the end of slavery; the emergence of Liberation Theology and its intersection with resistance, rebellion and revolution on the popular level; and recent efforts at post conflict reconciliation and peace building. Social Science (SO)

HISTH333 HISTORY AND THEORY
Bethel Saler
This course introduces students to some of the cultural theories that have influenced the recent work of historians as well as examples of historical monographs that take a theoretical approach. It highlights imaginative & innovative approaches to history rather than a particular geographic or chronological period. Among the cultural theorists whose work we will examine will include Michel Foucault, Clifford Geertz, Pierre Bourdieu, Edward Said, and Dipesh Chakrabarty. Social Science (SO)

HISTH347 OUTLAWS AND WARRIORS IN MEDIEVAL CHINA AND JAPAN
Paul Smith
Topic: Outlaws and Warriors in Medieval China and Japan. Social Science (SO)
HISTORY

HISTH350 COURTLY SCIENCE IN EARLY MODERN EUROPE
Darin Hayton
The early modern court was the site of pageantry, intrigue, and the production of scientific knowledge. This seminar examines how the rules that structured courtly and dynastic politics also shaped the production of natural knowledge. Science, in other words, as courtly performance. Social Science (SO)

HISTH356 EUROPE 1870-1914; MARXISM, IMPERIALISM, ART NOUVEAU, AND THE NEW SEXUALITY
Linda Gerstein
Social Science (SO)

HISTH357 TOPICS IN EUROPEAN HISTORY: NATIONALISM AND MIGRATION
Alexander Kitroeff
Seminar meetings, reports, and papers. May be repeated for credit with change of topic. Social Science (SO)

HISTH358 TOPICS IN ENLIGHTENMENT HISTORY
Lisa Graham
This course explores the field of Enlightenment History in the European and Atlantic worlds. Topics will rotate to reflect current debates. The seminar reflects the interdisciplinary nature of the field through readings in primary sources, historical scholarship, and theoretical texts. Social Science (SO)

HISTH400 SENIOR THESIS SEMINAR
Staff
History 400a thesis seminar is the senior research lab for thesis work. Students enrolled in the one-semester option will submit their thesis on the last day of class, and work with their assigned faculty advisor throughout the semester. Students enrolled in the two-semester option will continue on to History 400b in the spring where they will work with their assigned faculty advisor to complete the writing and revision of the thesis. Social Science (SO)
The curriculum in History of Art immerses students in the study of visual culture. Structured by a set of evolving disciplinary concerns, students learn to interpret the visual through methodologies dedicated to the historical, the material, the critical, and the theoretical. Majors are encouraged to supplement courses taken in the department with history of art courses offered at Haverford, Swarthmore, and the University of Pennsylvania. Majors are also encouraged to study abroad for a semester of their junior year.

MAJOR REQUIREMENTS
The major requires ten units, approved by the major adviser. A usual sequence of courses would include at least one 100-level “critical approaches” seminar, which also fulfills the departmental writing intensive requirement, four 200-level lecture courses, three 300-level seminars, and senior conference I and II in the fall and spring semesters of the senior year. In the course of their departmental studies, students are strongly encouraged to take courses across media and areas, and in at least three of the following fields of study: Ancient and Medieval, Renaissance and Baroque, Modern and Contemporary, Film, and Global/Non-Western.

With the approval of the major adviser, courses in fine arts or with significant curricular investment in visual studies may be counted toward the fulfillment of the distribution requirements, such as courses in ancient art offered by the Classical and Near Eastern Archaeology Department or in architecture by the Growth and Structure of Cities Department. Similarly, courses in art history taken abroad or at another institution in the United States may be counted. Generally, no more than two such courses may be counted toward the major requirements.

A senior thesis, based on independent research and using scholarly methods of historical and/or critical interpretation must be submitted at the end of the spring semester. Generally 25-40 pages in length, the senior thesis represents the culmination of the departmental experience.

MINOR REQUIREMENTS
A minor in History of Art requires six units: one or two 100-level courses and four or five others selected in consultation with the major adviser.

REQUIREMENTS FOR HONORS
Seniors whose work is outstanding (with a 3.7 GPA in the major) will be invited to submit an honors thesis. Two or three faculty members discuss the completed thesis with the honors candidate in a one-half hour oral examination.

FACULTY
David Cast
Professor of History of Art
Maeve Doyle
Lecturer
Matthew Charles Feliz
Lecturer
Christiane Hertel
Katharine E. McBride Professor
Sylvia Houghteling
Assistant Professor of History of Art
Homay King (on leave fall 2016)
Professor of History of Art and the Eugenia Chase Guild Chair in the Humanities
Steven Levine
Professor of History of Art and the Leslie Clark Professor in the Humanities
Lisa Saltzman
Chair and Professor of History of Art and the Andrew W. Mellon Foundation Chair in the Humanities
Alicia Walker (on leave 2016-17)
Associate Professor of History of Art on the Marie Neuberger Fund for the Study of Arts and Director of the Center for Visual Culture
HART B102 CRITICAL APPROACHES TO VISUAL REPRESENTATION: NATURALISM AND THE SUPERNATURAL IN SOUTH ASIAN ART
Sylvia Houghteling
This course examines the coexistence of aniconic, figural and supernatural representations of gods, plants, humans and animals in the Hindu, Buddhist, Jain and Islamic artistic traditions of India. It will trace both the development of naturalistic representations, as well as departures and embellishments on naturalism in the painting, sculpture, architecture, metalwork and textiles of South Asia. In this course, we will study the central tenets of South Asian religious traditions and will read and listen to the epic narratives, Sufi poetry and classical Indian music that influenced so much of South Asia’s visual culture. With this foundation, the course will consider the spiritual, social, political and creative motivations that led artists to choose naturalistic or supernatural forms of representation, reaffirming that the anti- and super-naturalistic elements of South Asian art rarely resulted from a lack of skill but from the conscious choice of the artist. In writing assignments, students will be challenged to find words to describe the myriad representational strategies that South Asian artists have used over time to depict their own world, but also to render other realms. This writing intensive (WI) course will therefore emphasize the importance of using of precise and creative language in art historical visual analysis. Approach: Cross-Cultural Analysis (CC); Inquiry into the Past (IP). Major Writing Requirement: Writing Intensive. (Spring 2017)

HART B104 CRITICAL APPROACHES TO VISUAL REPRESENTATION: THE CLASSICAL TRADITION
David Cast
An investigation of the historical and philosophical ideas of the classical, with particular attention to the Italian Renaissance and the continuance of its formulations throughout the Westernized world. Approach: Critical Interpretation (CI); Inquiry into the Past (IP). Major Writing Requirement: Writing Intensive. (Fall 2016)

HART B107 CRITICAL APPROACHES TO VISUAL REPRESENTATION: SELF AND OTHER IN THE ARTS OF FRANCE
Steven Levine
A study of artists’ self-representations in the context of the philosophy and psychology of their time, with particular attention to issues of political patronage, gender and class, power and desire. Approach: Critical Interpretation (CI); Inquiry into the Past (IP). Major Writing Requirement: Writing Intensive. Counts towards: Gender and Sexuality Studies. (Fall 2016)

HART B108 CRITICAL APPROACHES TO VISUAL REPRESENTATION: WOMEN, FEMINISM, AND HISTORY OF ART
Lisa Saltzman
An investigation of the history of art since the Renaissance organized around the practice of women artists, the representation of women in art, and the visual economy of the gaze. Approach: Critical Interpretation (CI); Inquiry into the Past (IP). Major Writing Requirement: Writing Intensive. Counts towards: Gender and Sexuality Studies. (Spring 2017)

HART B110 CRITICAL APPROACHES TO VISUAL REPRESENTATION: IDENTIFICATION IN THE CINEMA
Homay King
An introduction to the analysis of film through particular attention to the role of the spectator. Why do moving images compel our fascination? How exactly do film spectators relate to the people, objects, and places that appear on the screen? Wherein lies the power of images to move, attract, repel, persuade, or transform its viewers? In this course, students will be introduced to film theory through the rich and complex topic of identification. We will explore how points of view are framed in cinema, and how those viewing positions differ from those of still photography, advertising, video games, and other forms of media. Students will be encouraged to consider the role the cinematic medium plays in influencing our experience of a film: how it is not simply a film’s content, but the very form of representation that creates interactions between the spectator and the images on the screen. Film screenings include Psycho, Being John Malkovich, and others. Course is geared to freshman and those with no prior film instruction. Fulfills History of Art major 100-level course requirement, Film Studies minor Introductory course or Theory course requirement.
HISTORY OF ART AT BRYN MAWR COLLEGE

Approach: Critical Interpretation (CI); Inquiry into the Past (IP). Major Writing Requirement: Writing Intensive. Counts towards: Film Studies. (Spring 2017)

HART B211 TOPICS IN MEDIEVAL ART HISTORY
Staff
This is a topics course. Course content varies.
Approach: Critical Interpretation (CI); Inquiry into the Past (IP). (Not Offered 2016-2017)

HART B212 MEDIEVAL ART & ARCHITECTURE
Staff
This course takes a broad geographic and chronological scope, allowing for full exposure to the rich variety of objects and monuments that fall under the rubric of “medieval” art and architecture. We focus on the Latin and Byzantine Christian traditions, but also consider works of art and architecture from the Islamic and Jewish spheres. Topics to be discussed include: the role of religion in artistic development and expression; secular traditions of medieval art and culture; facture and materiality in the art of the middle ages; the use of objects and monuments to convey political power and social prestige; gender dynamics in medieval visual culture; and the contribution of medieval art and architecture to later artistic traditions.
Approach: Critical Interpretation (CI); Inquiry into the Past (IP). (Spring 2017)

HART B230 RENAISSANCE ART
Staff
A survey of painting in Florence and Rome in the 15th and 16th centuries (Giotto, Masaccio, Botticelli, Leonardo, Michelangelo, Raphael), with particular attention to contemporary intellectual, social, and religious developments. Approach: Critical Interpretation (CI); Inquiry into the Past (IP). (Not Offered 2016-2017)

HART B240 THE GLOBAL BAROQUE
Sylvia Houghteling
“The Global Baroque” examines artistic production in the seventeenth and eighteenth centuries as the Baroque style spread far beyond its original European context to Eastern Europe, the New World, the Ottoman Empire, the Kingdom of Kongo, India, Japan and China. We will study the emergence in this period of new intellectual, artistic and social formations: the migration of artisans and changes in the structure of guilds; the creation of princely collections of wonders; the invention, importation and use of exotic art materials; early modern ethnography and representations of the “other”; and the participation of art in early modern politics, religious missions and global trade. As a class, we will study the Baroque as an invitation for emotional engagement, a response to the new material culture of global trade, as a style of power that was complicit in the violence and inhumanity of European colonialism, and, paradoxically, as a tool of cultural reclamation used by artists across the world. We will ultimately interrogate how to construct an art history of “The Global Baroque” that also attends to the complex specificities of time and place. Approach: Cross-Cultural Analysis (CC); Inquiry into the Past (IP). (Fall 2016)

HART B250 NINETEENTH-CENTURY ART IN FRANCE
Steven Levine
Close attention is selectively given to the work of Cézanne, Courbet, David, Degas, Delacroix, Géricault, Ingres, Manet, and Monet. Extensive readings in art criticism are required.
Approach: Critical Interpretation (CI); Inquiry into the Past (IP). (Spring 2017)

HART B253 SURVEY OF WESTERN ARCHITECTURE
David Cast
The major traditions in Western architecture are 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. Approach: Inquiry into the Past (IP). (Spring 2017)

HART B260 MODERN ART
Matthew Feliz
This course will trace the history of modern art, from its origins to its ends.
Approach: Critical Interpretation (CI); Inquiry into the Past (IP). (Fall 2016)

HART B272 SINCE 1960: CONTEMPORARY ART AND THEORY
Staff
Lectures and readings will examine major movements in contemporary art, including Pop Art, Minimalism, Conceptualism, Performance, Postmodernism, and Installation Art. We will examine the dialogue between visual works and critical texts by Roland Barthes, Claire Bishop,

**HART B273 TOPICS IN EARLY CHINA**  
*Staff*  
This is a topics course. Course content varies. Approach: Inquiry into the Past (IP). (Not Offered 2016-2017)

**HART B274 TOPICS IN CHINESE ART**  
*Staff*  
This is a topics course. Course content varies. Approach: Critical Interpretation (CI); Inquiry into the Past (IP). (Not Offered 2016-2017)

**HART B277 TOPICS: HISTORY OF PHOTOGRAPHY**  
*Staff*  
This is a topics course. Course content varies. Approach: Cross-Cultural Analysis (CC). Units: 1.0 (Not Offered 2016-2017)

**HART B279 EXHIBITING AFRICA: ART, ARTIFACT AND NEW ARTICULATIONS**  
*Monique Scott*  
At the turn of the 20th century, the Victorian natural history museum played an important role in constructing and disseminating images of Africa to the Western public. The history of museum representations of Africa and Africans reveals that exhibitions—both museum exhibitions and “living” World’s Fair exhibitions—has long been deeply embedded in politics, including the persistent “othering” of African people as savages or primitives. While paying attention to stereotypical exhibition tropes about Africa, we will also consider how art museums are creating new constructions of Africa and how contemporary curators and conceptual artists are creating complex, challenging new ways of understanding African identities. Approach: Cross-Cultural Analysis (CC). Counts towards: Africana Studies; Museum Studies. (Fall 2016)

**HART B300 THE CURATOR IN THE MUSEUM**  
*Staff*  
This course provides an introduction to theoretical and practical aspects of museums and to the links between practice and theory that are the defining characteristic of the museum curator’s work today. The challenges and opportunities confronting curators and their colleagues, peers, audiences, and constituents will be addressed through readings, discussions, guest presentations, writings, and individual and group projects. (Not Offered 2016-2017)

**HART B301 TOPICS IN EXHIBITION STRATEGIES**  
*Carrie Robbins*
This is a topics course. Course content varies. Counts towards: Museum Studies; Praxis Program

Spring 2017: Exhibiting the Self. Mirroring the Self, Exhibiting the Self is a two-semester cluster, building toward a student-curated exhibition of art and artifacts from the College’s collections. In the fall, participants will study the history and theories of self-portraiture, self-representation, and self-fashioning in cultures around the globe from antiquity to the present. They will research and write catalogue entries on the objects they have selected for exhibition. In the spring, students will explore museums and discuss theories of exhibition-making, learning to identify different curatorial approaches. They will determine a curatorial agenda, produce didactic materials, develop public programming, and install an exhibition.

HART B306 FILM THEORY
Homay King
An introduction to major developments in film theory and criticism. Topics covered include: the specificity of film form; cinematic realism; the cinematic “author”; the politics and ideology of cinema; the relation between cinema and language; spectatorship, identification, and subjectivity; archival and historical problems in film studies; the relation between film studies and other disciplines of aesthetic and social criticism. Each week of the syllabus pairs critical writing(s) on a central principle of film analysis with a cinematic example. Class will be divided between discussion of critical texts and attempts to apply them to a primary cinematic text. Prerequisite(s): a course in Film Studies (HART B110, HART B299, ENGL B205, or the equivalent from another college by permission of instructor). Counts towards: Film Studies. (Spring 2017)

HART B311 TOPICS IN MEDIEVAL ART
Staff
This is a topics course. Course content varies. Current topic description: Topic TBA. Counts towards: Middle Eastern Studies. (Spring 2017)

HART B323 TOPICS IN RENAISSANCE AND BAROQUE ART
Staff
This is a topics course. Course content varies. (Not Offered 2016-2017)

HART B334 TOPICS IN FILM STUDIES
Matthew Feliz
This is a topics course. Course content varies. Counts towards: Gender and Sexuality Studies; Film Studies.

Fall 2016: Visual Culture and Technology. This course examines the intersections of art and technology across a wide range of visual culture and popular media. Beginning with an exploration of a set of aesthetic and cultural production that includes 16th century woodcuts, 17th century cabinets of curiosity, 18th century magic lantern shows, and 19th century stereoscopes and panoramas, the course will provide historical context for a consideration of the role that various forms of technology have played in shaping art, film and new media in the 20th and 21st century.

HART B340 TOPICS IN BAROQUE ART
Christiane Hertel
This is a topics course. Course content varies. Counts towards: Gender and Sexuality Studies

Fall 2016: Dutch Painting. This seminar examines the conceptual polarity of realism and illusionism in paintings by Hals, Peeters, Steen, Rembrandt, Ruisdael, Terborch, Vermeer, and others by way of attending to genres (e.g., scenes of social life, portrait, still life, landscape) and modes of representation (e.g., comedy, parody, vanitas), as well as cultural, social, and political practices (e.g., religion, colonialism, luxury consumption, gender roles, scientific exploration, and collection).

HART B345 TOPICS IN MATERIAL CULTURE
This is a topics course. Course content varies. Instructor(s): Houghteling, S.

Fall 2016: Textiles of Asia. This course will delve into more local questions including techniques of production, paths of circulation and contexts of reception. Through close study of woven objects and visits to the Penn Museum and the Philadelphia Museum of Art, this course will trace the history of textiles from the 9th century to the 18th century, encompassing Eastern and Western Asia, from Chinese and Indonesian textile traditions to the weavings of Iran and Turkey.

HART B350 TOPICS IN MODERN ART
Steven Levine
This is a topics course. Course content varies.

Fall 2016: Mirroring the Self. Mirroring the Self, Exhibiting the Self is a 2-semester 360° cluster, building toward a student-authored catalog &
student-curated exhibition of College collections. In the fall, history of self-representation & cosmetic self-fashioning in cultures around the globe from antiquity to the present. In the spring, theory & practice of exhibitions, curatorial approaches, installation, and public programming.

HART B355 TOPICS IN THE HISTORY OF LONDON
David Cast
Selected topics of social, literary, and architectural concern in the history of London, emphasizing London since the 18th century. (Fall 2016)

HART B370 TOPICS IN CHINESE ART
Staff
This is a topics course. Course content varies. (Not Offered 2016-2017)

HART B373 CONTEMPORARY ART IN EXHIBITION: MUSEUMS AND BEYOND
Staff
How does the collection and display of artwork create meanings beyond the individual art object? In recent decades, enormous shifts have occurred in exhibition design as artwork projected from the walls of the museum, moved outdoors to the space of the street, and eventually went online. We will study an array of contemporary exhibition practices and sites in their social and historical contexts, including the temporary exhibition, “the white cube,” the “black box,” museum installations, international biennials, and websites. During the seminar, we will examine how issues such as patronage, avant-gardism, globalization, and identity politics have progressively brought museums and other exhibition spaces into question. (Not Offered 2016-2017)

HART B374 TOPICS: EXHIBITION SEMINAR
Staff
This is a topics course. Course content varies. Students will gain practical experience in the production of an exhibition: conceiving a curatorial approach, articulating themes, writing didactics, researching a checklist, designing gallery layout, producing print and web materials, developing programs, and marketing the exhibit. Prerequisite(s): at least one previous HART course at Bryn Mawr College. (Not Offered 2016-2017)

HART B380 TOPICS IN CONTEMPORARY ART
Matthew Feliz
This is a topics course. Course content varies.
Fall 2016: Visual Culture & the Holocaust. Poems, novels, films, photographs, paintings, performances, monuments, memorials, even comics have engaged us with the traumatic history of the Holocaust. Our task will be to examine such cultural objects, aided by the extensive body of critical, historical, theoretical, and philosophical writings through which such work has been variously critiqued and commended.
Spring 2017: Latin American Conceptualisms.

HART B398 SENIOR CONFERENCE I
David Cast, Lisa Saltzman
A critical review of the discipline of art history in preparation for the senior thesis. Required of all senior majors. (Fall 2016)

HART B399 SENIOR CONFERENCE II
Steven Levine, David Cast
A seminar for the discussion of senior thesis research and such theoretical and historical concerns as may be appropriate. Interim oral reports. Required of all majors; culminates in the senior thesis. (Spring 2017)

HART B403 SUPERVISED WORK
Staff
Advanced students may do independent research under the supervision of a faculty member whose special competence coincides with the area of the proposed research. Consent of the supervising faculty member and of the major adviser is required. (Fall 2016, Spring 2017)

HART B425 PRAXIS III
Staff
Students are encouraged to develop internship projects in the college’s collections and other art institutions in the region. Counts towards: Praxis Program. (Not Offered 2016-2017)

HART B624 TOPICS IN DUTCH PAINTING
Christiane Hertel
This is a topics course. Course content varies.
Fall 2016: Realism and Illusionism This seminar examines the conceptual polarity of realism and illusionism in paintings by Hals, Peeters, Steen, Rembrandt, Ruisdael, Terborch, Vermeer, and others by way of attending to genres (e.g., scenes of
social life, portrait, still life, landscape) and modes of representation (e.g., comedy, parody, vanitas), as well as cultural, social, and political practices (e.g., religion, colonialism, luxury consumption, gender roles, scientific exploration, and collection).

HART B630 TOPICS IN RENAISSANCE AND BAROQUE ART
Staff
This is a topics course. Course content varies. (Not Offered 2016-2017)

HART B636 VASARI
Staff
This seminar focuses on Giorgio Vasari as painter and architect and above all as a founder of the Florentine Academy and the writer of the first modern history of the arts. Topics covered range across the arts of that time and then the questions any such critical accounting of the arts calls up, imitation, invention, the notion of the artist and however it is possible to capture in words what seems often to be beyond them. (Not Offered 2016-2017)

HART B673 CONTEMPORARY ART IN EXHIBITION: MUSEUMS AND BEYOND
Staff
How does the collection and display of artwork create meanings beyond the individual art object? In recent decades, enormous shifts have occurred in exhibition design as artwork projected from the walls of the museum, moved outdoors to the space of the street, and eventually went online. We will study an array of contemporary exhibition practices and sites in their social and historical contexts, including the temporary exhibition, “the white cube,” the “black box,” museum installations, international biennials, and websites. During the seminar, we will examine how issues such as patronage, avant-gardism, globalization, and identity politics have progressively brought museums and other exhibition spaces into question. (Not Offered 2016-2017)

HART B610 TOPICS IN MEDIEVAL ART
Staff
This is a topics course. Course content varies. (Not Offered 2016-2017)

HART B640 TOPICS IN BAROQUE ART
Sylvia Houghteling
This is a topics course. Course content varies.

Spring 2017: Tapestry. This course will examine the technical origins, spatial functions and art historical contributions of the tapestry medium in the early modern world.

HART B645 PROBLEMS IN REPRESENTATION
Staff
This seminar examines, as philosophy and history, the idea of realism, as seen in the visual arts since the Renaissance and beyond to the 19th and 20th centuries. (Not Offered 2016-2017)

HART B650 TOPICS IN MODERN ART
Steven Levine
This is a topics course. Topics vary.
Spring 2017: Monet and Modernism. This seminar considers a variety of approaches to the work of Claude Monet and his contemporaries in the context of Realism, Impressionism, Post-Impressionism, and Modernism.

HART B651 TOPICS: INTERPRETATION AND THEORY
Lisa Saltzman
This is a topics course. Course content varies.
Fall 2016: Approaches to Abstraction This course will examine a range of theoretical approaches to abstraction.

HART B671 TOPICS IN GERMAN ART
Staff
This is a topics course. Topics vary. (Not Offered 2016-2017)

HART B678 PORTRAITURE
Staff
This seminar on self-portraiture examines the representation of the individual from the Renaissance to the present in painting, photography, and film. Artists range from Artemisia Gentileschi and Poussin to Cézanne and Cindy Sherman. (Not Offered 2016-2017)

HART B680 TOPICS IN CONTEMPORARY ART
Staff
This is a topics course. Course content varies.
Fall 2016: Visual Culture & the Holocaust. Poems, novels, films, photographs, paintings, performances, monuments, memorials, even comics have engaged us with the traumatic history of the Holocaust. Our task will be to examine such cultural objects, aided by the extensive body of critical, historical,
theoretical, and philosophical writings through which such work has been variously critiqued and commended.

HART B701 SUPERVISED WORK
Staff
(Fall 2016, Spring 2017)
INDEPENDENT COLLEGE PROGRAMS

Independent College Programs (ICPR) supports courses that expand and enhance the curricular opportunities at Haverford College.

These courses, offered by visiting professors and members of the various departments of the College, are in different ways outside the major programs of the departments. They may be introductory in approach, or they may be interdisciplinary, bringing the insights and techniques of one discipline to bear on the problems important to another. They attempt to introduce students to intellectual experiences that are different from the ones available in our departmental curricula, although in recent years the Independent College Programs (ICPR) has served as something of an incubator for new interests and themes in the curriculum, such as health studies and visual studies.

The courses have no prerequisites, except where explicitly stated.

CONCENTRATIONS AND INTERDISCIPLINARY MINORS

Some of the faculty affiliated with ICPR teach courses that count towards various concentrations and interdisciplinary minors. Students should read more about the role these play in the curriculum under the Catalog descriptions for the individual programs in question.

FACULTY

Linda Gerstein
Chair and Professor

Susan Benston
Visiting Professor

Kaye Edwards
Associate Professor

Victoria Funari
Visiting Assistant Professor, Artist in Residence

Neal Grabell
Visiting Professor

Christina Knight
Assistant Professor

Kristen Mills
Visiting Assistant Professor

Bridget Moix
Visiting Instructor

John Muse
Visiting Assistant Professor

Carol Schilling
Visiting Professor

Jeanne Vaccaro
Visiting Assistant Professor

COURSES

ICPRH101 INTRODUCTION TO AFRICAN AND AFRICANA STUDIES
Zolani Ngwane, Jesse Shipley
An interdisciplinary introduction to Africana Studies, emphasizing change and response among African peoples in Africa and outside. Social Science (SO)

ICPRH115 INTRODUCTION TO HEALTH STUDIES
Judith Owen
The multidisciplinary foundation for the health studies minor. Students will be introduced to theories and methods from the life sciences, social sciences, and humanities and will learn to apply them to problems of health and illness. Topics include epidemiological, public health, and biomedical perspectives on health and disease; social, behavioral, and environmental determinants of health; globalization of health issues; cultural representations of illness; health inequalities, social justice, and the ethics of health as a human right. Crosslisted: Health Studies; Social Science (SO)

ICPRH204 PICTURING WAR: GOYA TO PRESENT
Staff
An examination of aesthetic, social, political, psychological, and historical aspects of the visual representation of war. Media ranging from prints and photographs to sculpture and film from the beginning of the nineteenth century to the present day. Crosslisted: PEAC; Humanities (HU)
ICPRH206 INTRODUCTION TO PERMACULTURE  
*Rafter Ferguson*  
An introduction to permaculture, a design system aimed at meeting human needs while increasing ecosystem health, with attention to ethics, principles, design process, and techniques for application across a wide range of contexts. Crosslisted: Environmental Studies; Prerequisite(s): sophomore standing (at time taking course); Social Science (SO)

ICPRH209 FILM ON PHOTOGRAPHY: THEORY AND PRACTICE  
*John Muse*  
A study of films that feature photographs as evidence, icons, memento mori, or technical and formal resources. Through careful viewing and lab work on video production techniques, we will consider how particular films stage the relation between photography and film. THE LABS ARE MANDATORY. Crosslisted: Film Studies; Humanities (HU)

ICPRH213 EXPERIMENTAL MEDIA: THEORY, HISTORY, PRACTICE  
*John Muse*  
A study of experimental film, experimental video, and conceptual art, all of which have influenced our current media culture. Students will analyze the technical features of video, study themes that dominate the history of experimental film, and produce films and media installations. Crosslisted: Fine Arts; Humanities (HU)

ICPRH218 EXPERIENCING AND RESPONDING TO ILLNESS AND DISABILITY: 1793-1930  
*Michele Taylor*  
Multidisciplinary exploration of the relationship between shifting paradigms in 19th-century medical science and public health, and social, cultural, artistic and architectural responses. Readings included secondary historical and theoretical narratives and primary sources. Crosslisted: Health Studies; Prerequisite(s): HLTH 115 or permission of instructor; Humanities (HU)

ICPRH219 THE ONE, THE TWO AND THE MANY: READINGS IN FEMINIST PHILOSOPHY  
*Staff*  
Reading texts by key 20th century feminist philosophers, including de Beauvoir, Irigaray, Butler, and Lorde, our central question will be about the philosophical and ontological status of sexual difference. Is sexual difference belied by our fundamental commonality as human, thinking beings? Prerequisite(s): PJHR course or PHIL course or Gen/Sex course, or consent of instructor; Crosslisted: PEAC; Humanities (HU)

ICPRH221 EPIDEMIOLOGY AND GLOBAL HEALTH  
*Staff*  
This course will examine the interplay of biomedical, societal, and ethical concerns in global health. A unit on epidemiology will provide the analytical tools to measure effectiveness of various public health responses. Case studies will highlight the impact of medical science, economics, culture, and politics on public health in different countries. Prerequisite(s): college-level biology course; a course in Statistics is recommended; Crosslisted: Health Studies; Natural Science (NS)

ICPRH223 MENTAL AFFLICTION: THE DISEASE OF THOUGHT  
*Susan Benston*  
Drawing on illness memoirs, literary fiction, case histories, and essays in neuroscience, physics, and philosophy of mind, this course will explore how far the vehicle of language can transport us into turbulent mental landscapes without itself breaking down. The syllabus will feature selections from numerous authors such as Nancy Andreasen, John Barth, Samuel Beckett, Jorge Luis Borges, Robert Coover, Antonio Damasio, Daniel Dennett, Julie Holland, Clarice Lispector, Vladimir Nabokov, Thomas Nagel, Steven Pinker, Fernando Pessoa, Elyn Saks, Lawrence Shainberg, Max Tegmark, and Lu Xun. Crosslisted: HLTH; Humanities (HU)

ICPRH225 BRING YOUR OWN BODY: TRANSGENDER BETWEEN ARCHIVES AND AESTHETICS  
*Jeanne Vaccaro*  
How do we read, record and write histories and practices of sexual difference—in the archives, a queer bar, or an art gallery? This seminar examines the relationship between queer politics and archival methods. Together we will both study and theorize the study of gender and sexuality as intersecting with the personal investments of identity politics. Through organized visits to archives and special collections, students will learn practical and
conceptual strategies for pursuing research in sexuality studies; we will then shift into an exploration of counter archives, paying special attention to ephemeral objects, material culture, digital media, quotidian aesthetics, and subcultural scenes in the making of queer knowledge. The exhibition *Bring Your Own Body* (Cantor Fitzgerald Gallery, October 21—December 16, 2016) will serve as a both case study and laboratory, with programming augmenting class readings. Crosslisted: Peace, Justice, and Human Rights, Health Studies; Humanities (HU)

**ICPRH233 COMMUNITY ENGAGEMENT AND SOCIAL RESPONSIBILITY**

*Kaye Edwards*

Seminar for students engaged in community placements within the Philadelphia region through offices and programs in the Bi-Co. Students will analyze their community experiences in light of theories of injustice, direct service, and social transformation. Prerequisite(s): students will be selected based on instructor evaluation of written applications; Crosslisted: Health Studies; Social Science (SO)

**ICPRH235 THE POST-IMPRESSIONISTS: CEZANNE, SEURAT, VAN GOGH, AND GAUGUIN**

*Staff*

Using various art-historical approaches, this course focus on the works of major Post-Impressionist artists: Seurat, Cezanne, Van Gogh, and Gauguin. This course will include a field trip to the Barnes Foundation. Crosslisted: Fine Arts; Humanities (HU)

**ICPRH242 INTRODUCTION TO VISUAL STUDIES**

*Staff*

This course is an introduction to key issues in the interdisciplinary field of visual studies. Visual images pervade contemporary life: they circulate in art and cinema, on Instagram and Snapchat, and in the many ways that we learn about current events and participate in consumer culture. Beginning with the insight that contemporary subjects negotiate the world through visual culture, we will examine the ways that images produce cultural meaning, paying close attention to issues of production, circulation and reception. We will also investigate the ways that commonsense practices of viewing are nevertheless ideologically charged. How, for instance, does our understanding of the visual shape our valuations of both art objects and racialized “others”? The course will include gallery visits, screenings, and occasional guest lectures. Humanities (HU)

**ICPRH243 INTRODUCTION TO DOCUMENTARY VIDEO PRODUCTION**

*Victoria Funari*

The craft and theory of documentary video production. The basics, including use of HD digital cameras, lighting and sound techniques, and nonlinear video editing, culminating in the completion of short documentaries during the semester. Attendance at weekly documentary screenings is required. Humanities (HU)

**ICPRH244 QUAKER SOCIAL WITNESS**

*Bridget Moix*

Seminar course examining the commitment to social justice within the Religious Society of Friends (Quakers), exploring its religious foundation and highlighting historical and current manifestations. Readings on Quaker testimonies and on the roles of Quakers in abolition, suffrage, and peace will be complemented by guest speakers from Quaker social justice organizations. Social Science (SO)

**ICPRH246 MANAGEMENT AND LEADERSHIP**

*Neal Grabell*

A study of the managerial functions of planning, organizing, leading and controlling resources to accomplish organizational goals. Focusing on leadership and ethics, this course will consider the role, skills, techniques and responsibilities of managers in business, non-profit, and other organizations. Social Science (SO)

**ICPRH247 FINANCIAL AND MANAGERIAL ACCOUNTING**

*Neal Grabell*

An introduction to financial accounting concepts, financial reporting, and managerial accounting. The course will address how accounting measures, records, and reports economic activities for business entities and how decision makers analyze, interpret, and use accounting information. Social Science (SO)

**ICPRH277 ETHICAL LEADERSHIP IN BUSINESS AND THE PROFESSIONS**

*Neal Grabell*

Through an exploration of ethical theory and case studies, we will examine topics such as: the tension
between compliance with the law and the profit motive, professional responsibility and detachment, the proper treatment of clients/patients, short-term vs. long-term benefits, the relevance of social benefits claims to business practice, doing “well” by doing “good”, and the dilemma of ethical relativism in the world of international business. Social Science (SO)

ICPRH278 DOCUMENTARY FILM AND APPROACHES TO TRUTH
Victoria Funari

This course explores the challenge of truth-telling in documentary film and video, through both practice and theory. What ideas and practices have documentarians engaged with to acknowledge, deny, undermine, complicate, and perhaps solve the problem of truth? Readings, film viewings, discussions, writing, and exercises in video production and editing lead to the creation of final videos by students. Humanities (HU)

ICPRH281 VIOLENCE AND PUBLIC HEALTH
Kaye Edwards

An interdisciplinary seminar course analyzing the advantages and limitations of a public health perspective on violence. We will examine how every-day violence, direct political violence, and structural violence effect public health, as well as evidence that violence is preventable and amenable to public health strategies. Social Science (SO)

ICPRH290 INTERDISCIPLINARY PERSPECTIVES ON GENDER
Anne Balay
Humanities (HU)

ICPRH298 IMPACT INVESTING
Shannon Mudd

Impact investing is investing to generate both a financial return and a positive social benefit. It supports firms seeking to address social, environmental and /or governance problems (ESG) in a sustainable way often within market activity. The focus of this course is to not only gain an understanding of the theory and practice of impact investing across its many components, but also to gain practical experience by assessing a particular set of potential impact investments, making formal presentations of findings to an investment committee leading to a recommendation for investment to a partnering foundation. Prerequisite(s): ECON 105 or 106; Crosslisted: ECON and PEAC; Social Science (SO)

ICPRH301 HUMAN RIGHTS, DEVELOPMENT AND INTERNATIONAL ACTIVISM
Thomas Donahue

What are the worldwide obstacles to peace and justice? How can we surmount them? This course examines theories of some of the leading obstacles to peace and justice worldwide, and of what global citizens can do about them. The three problems we consider are colonialism and its legacies, whether we live in a global racial order, and whether the global economic order harms the poor and does them a kind of violence. The two solutions we will consider are the practice of human rights, and the project of economic and social development. The course aims, first, to give students some of the knowledge they will need to address these problems and be effective global citizens. Second, to understand some of the major forces that shape the present world order. Third and finally, to hone the skills in analysis, theory-building, and arguing that are highly valued in legal and political advocacy, in public life and the professions, and in graduate school.

ICPRH302 BODIES OF INJUSTICE: HEALTH, ILLNESS AND HEALING IN CONTEXTS OF INEQUALITY
Carol Schilling

For students returning from internship experiences who wish to deepen their understanding of social justice, health, and healthcare. The course integrates experiential learning with humanities and social medicine readings on witnessing and representing inequalities, cultural conceptions of health, structural determinants of health, and addressing health inequalities in the United States and other countries. Structural determinants include education, food resources, markets, medical and social services, governments, environments, transportation, cultures, languages, and more; Crosslisted: HLTH; Social Science (SO)

ICPRH308 BETWEEN BEING AND THE GODS: HEIDEGGER AND THE ART OF THINKING
Staff

Heidegger prided himself on being a teacher, by which he meant the art of teaching how to think rather than expounding particular philosophical doctrines. In this course, we will closely read seven
INDEPENDENT COLLEGE PROGRAMS

seminal essays in which Heidegger probes the meanings of death, truth, art, humanism, technology, and thinking. Prerequisite(s): PHIL course or PEAC/PJHR course or consent of instructor; Humanities (HU)

ICPRH309 CROSS-CULTURAL LAMENT TRADITIONS
Kristen Mills
An examination of cross-cultural lament traditions from antiquity to the present, with a focus on medieval and early modern Britain, Ireland, and Scandinavia. Topics include: gender and lament; orality, performance, and literacy; and the societal function of mourning. Prerequisite(s): at least one 200-level course in one of the following: Comparative Literature, English, Classics, any language/literature department, Music, or Anthropology; or consent of the instructor; Crosslisted: Comparative Literature; Humanities (HU)

ICPRH313 SOCIAL JUSTICE: A WORKSHOP ON ETHICS AND SOCIAL CHANGE
Terrance Wiley
This interdisciplinary course (workshop) will pivot around close readings of classic and contemporary writings and robust discussions with distinguished visitors about the ethical dimensions of and practical responses to contemporary social conditions, problems, and controversies. Crosslisted: PJHR; Humanities (HU)

ICPRH325 CONTEMPORARY ART OF THE ARAB WORLD, IRAN AND TURKEY
Staff
This interdisciplinary course will consider aspects of contemporary art, architecture, and visual culture of North Africa and the Middle East and the other two principal non-Arab Muslim states in the region, Iran and Turkey. Prerequisite(s): one course in History of Art or MEIS; Crosslisted: Fine Arts; Humanities (HU)

ICPRH353 THE DOCUMENTARY BODY: ADVANCED MEDIA PRODUCTION
Victoria Funari
The theory and craft of documentary film through an exploration of representations of the body. Students produce short documentaries, hone camera and editing skills, and learn basic producing skills. Students may also explore new media forms. Required weekly screenings. Humanities (HU)
Based on an interdisciplinary approach that views culture as a global phenomenon, the aims of the major in Italian Studies are to acquire a knowledge of Italian language, literature, and culture, including cinema, art, journalism, pop culture, and music. The Department of Italian Studies also cooperates with the Departments of French and Spanish in the Romance Languages major and with the other foreign languages in the Tri-Co for a major in Comparative Literature. The Italian Department cooperates also with the Center for International Studies (CIS).

MAJOR REQUIREMENTS

Italian Language/Literature (ILL) and Italian Cultural Studies (ICS) Major:
The Italian Language/Literature major and the Italian Cultural Studies major consists of ten courses starting at the ITAL 101/102 level, or an equivalent two-semester sequence taken elsewhere. The department offers a two-track system as guidelines for completing the major in Italian or in Italian Studies. Both tracks require ten courses, including ITAL 101-102. For students in either Track A or B we recommend a senior experience offered with ITAL 398 and ITAL 399, courses that are required for honors. Students may complete either track. Recommendations are included below—models of different pathways through the major:

Majors are required to complete one Writing Intensive (WI) course in the major. The WI courses will prepare students towards their senior project and to competent and appropriate writing, mainly in three ways: 1) Teach the writing process—planning, drafting, revising, and editing; 2) Emphasize the role of writing by allocating a substantial portion of the final grade to writing assignments; 3) Offer students the opportunity to receive feedback from professors and peers (through class peer review sessions). In responding to the feedback, students will experience writing as a process of discovery (re-visioning) and meaning. The goal of the new WI course will be to get students to re-think the argument, logical connection, focus, transition, evidence, quotes, organization, and sources.

ILL Major/ Track A:
Major requirements in ILL are 10 courses. Track A may be appropriate for students with an interest in literary and language studies. Required: ITAL 101/102, plus six courses (or more) conducted in Italian and two selected from among a list of approved ICS courses in English that may be taken in either within the department or in various other disciplines offered at the College (i.e. History, History of Art, English, Visual Art and Film Studies, Philosophy, Comparative Literature, Cities, Archaeology, Classics). Adjustments will be made for students taking courses abroad. Of the courses taken in Italian, students are expected to enroll in the following areas: Dante (ITAL 301), Renaissance (ITAL 304 or 302), Survey (ITAL 307), and two courses on Modern Italian literature (ITAL 380, ITAL 310, ITAL 320).

ICS/Track B:
Major requirements in ICS are 10 courses. Track B may be appropriate for students with an interest in cultural and interdisciplinary studies. The concentration is open to all majors and consists of both interdisciplinary and single-discipline courses drawn from various academic departments at the college. Required: ITAL 101/102, plus three courses conducted in Italian and five related courses in English that may be taken either within the department or in an allied-related fields in various disciplines throughout the college, or courses taken on BMC approved study-abroad programs, such as: Culture, History, History of Art, English, Visual Art and Film Studies, Philosophy, Comparative Literature, Cities, Archaeology, Classics.

Students majoring at BMC cannot earn more than two credits at the University of Pennsylvania in Italian.

MINOR REQUIREMENTS

Requirements for the minor in Italian Studies are ITAL 101, 102 and four additional units including two at the 200 level one of which in literature and
two at the 300 level one of which in literature. With departmental approval, students who begin their work in Italian at the 200 level will be exempted from ITAL 101 and 102. For courses in translation, the same conditions for majors apply.

REQUIREMENTS FOR HONORS
Students may apply to complete the major with honors. The honors component requires the completion of a year-long thesis advised by a faculty member in the department. Students enroll in the senior year in ITAL 398 and ITAL 399. Application to it requires a GPA in the major of 3.7 or higher, as well as a written statement, to be submitted by the fall of senior year, outlining the proposed project (see further below) and indicating the faculty member who has agreed to serve as adviser. The full departmental faculty vets the proposals.

THESIS
Students will write and research a 40-50 page thesis that aims to be an original contribution to Italian scholarship. As such, it must use primary evidence and also engage with the relevant secondary literature. By the end of the fall semester, students must have completed twenty pages in draft. In April they will give an oral presentation of their work of approximately one hour to faculty and interested students. The final draft is due on or around April 30th of the senior year and will be graded by two faculty members (one of whom is the adviser). The grade assigned is the major component of the spring semester grade. Proposals for the thesis should describe the questions being asked in the research, and how answers to them will contribute to scholarship. They must include a discussion of the primary sources on which the research will rest, as well as a preliminary bibliography of relevant secondary studies. They also must include a rough timetable indicating in what stages the work will be completed. It is expected that before submitting their proposals students will have conferred with a faculty member who has agreed to serve as adviser.

STUDY ABROAD
Students who are studying abroad for the Italian major for one year can earn two credits in Italian Literature and two credits in allied fields (total of four credits). Those who are studying abroad for one semester can earn no more than a total of two credits in Italian Literature or one credit in Italian Literature and one credit in an allied field (total of two credits).

FACULTY
David Cast
Professor of History of Art

Michele Monserrati
Visiting Assistant Professor

Nicholas Patruno
Katharine E. McBride Professor

Pamela Pisone
Instructor

Roberta Ricci
Associate Professor of Italian and Co-Director of Romance Languages

Gabriella Troncelliti
Institutional Assistant

ELECTIVE COURSES
ARTW B240/COML B240 LITERARY TRANSLATION
CITY B207 TOPICS IN URBAN STUDIES
CITY B360 DIGITAL ROME
COML B225 CENSORSHIP: HISTORICAL CONTEXTS, LOCAL PRACTICES AND GLOBAL RESONANCE
COML B213 THEORY IN PRACTICE: CRITICAL DISCOURSES IN THE HUMANITIES
CSTS B207 EARLY ROME AND THE ROMAN REPUBLIC
CSTS B208 THE ROMAN EMPIRE
CSTS B220 WRITING THE SELF
CSTS B223 THE EARLY MEDIEVAL WORLD
CSTS B310 FORMING THE CLASSICS
ENGL H385 TOPICS IN APOCALYPTIC WRITING—AT HAVERFORD COLLEGE
ENGL H220 EPIC—AT HAVERFORD COLLEGE
HART B104-001 CRITICAL APPROACHES TO VISUAL REPRESENTATION: THE CLASSICAL TRADITION
HART B253: SURVEY OF WESTERN ARCHITECTURE: 1400-1800
HART B323: TOPICS IN RENAISSANCE ART

Haverford College Catalog 2016-2017
ITALIAN B101 INTERMEDIATE ITALIAN
Roberta Ricci
This course provides students with a broader basis for learning to communicate effectively and accurately in Italian. While the principal aspect of the course is to further develop language abilities, the course also imparts a foundation for the understanding of modern and contemporary Italy. Students will gain an appreciation for Italian culture and be able to communicate orally and in writing in a wide variety of topics. We will read newspaper and magazine articles to analyze aspects on modern and contemporary Italy. We will also view and discuss Italian films and internet materials. Approach: Course does not meet an Approach. (Fall 2016)

ITALIAN B207 DANTE IN TRANSLATION
Staff
A reading of the Vita Nuova (Poems of Youth) and The Divine Comedy: Hell, Purgatory and Paradise in order to discover the subtle nuances of meaning in the text and to introduce students to Dante’s tripartite vision of the afterlife. Dante’s masterpiece lends itself to study from various perspectives: theological, philosophical, political, allegorical, historical, cultural, and literary. Personal journey, civic responsibilities, love, genre, governmental accountability, church-state relations, the tenuous balance between freedom of expression and censorship—these are some of the themes that will frame the discussions. Course taught in English; one additional hour for students who want Italian credit (ITAL 301). Approach: Inquiry into the Past (IP). (Not Offered 2016-2017)

ITALIAN B211 PRIMO LEVI, THE HOLOCAUST, AND ITS AFTERMATH
Nicholas Patruno
A consideration, through analysis and appreciation of his major works, of how the horrific experience of the Holocaust awakened in Primo Levi a growing awareness of his Jewish heritage and led him to become one of the dominant voices of that tragic historical event, as well as one of the most original new literary figures of post-World War II Italy. Always in relation to Levi and his works, attention will also be given to Italian women writers whose works are also connected with the Holocaust. Course is taught in English. An extra hour will be scheduled for those students taking the course for Italian or Romance Languages credit. Approach: Cross-Cultural Analysis (CC). (Fall 2016)

ITALIAN B212 ITALY TODAY: NEW VOICES, NEW WRITERS, NEW LITERATURE
Staff
This course, taught in English, will focus primarily on the works of the so-called “migrant writers” who, having adopted the Italian language, have become a significant part of the new voice of Italy. In addition to the aesthetic appreciation of these works, this course will also take into consideration the social, cultural, and political factors surrounding them. The course will focus on works by writers who are now integral to Italian canon—among them: Cristina Ali-Farah, Igiaba Scego, Ghermandi Gabriella, Amara Lakhous. As part of the course, movies concerned with various aspects of Italian Migrant literature will be screened and analyzed.
ITALIAN AND ITALIAN STUDIES AT BRYN MAWR COLLEGE

Approach: Cross-Cultural Analysis (CC); Critical Interpretation (CI). Counts towards: Gender and Sexuality Studies; Film Studies. (Not Offered 2016-2017)

ITAL B213 THEORY IN PRACTICE: CRITICAL DISCOURSES IN THE HUMANITIES
Staff
An examination in English of leading theories of interpretation from Classical Tradition to Modern and Post-Modern Time. This is a topics course. Course content varies. Approach: Critical Interpretation (CI). (Not Offered 2016-2017)

ITAL B214 THE MYTH OF VENICE (1800-2000)
Michele Monserrati
The Republic of Venice existed for over a millennium. This course begins in the year 1797 at the end of the Republic and the emerging of an extensive body of literature centered on Venice and its mythical facets. Readings will include the Romantic views of Venice (excerpts from Lord Byron, Fredrick Schiller, Wolfang von Goethe, Ugo Foscolo, Alessandro Manzoni) and the 20th century reshaping of the literary myth (readings from Thomas Mann, Filippo Tommaso Marinetti, Gabriele D’Annunzio, Henry James, and others). A journey into this fascinating tradition will shed light on how the literary and visual representation of Venice, rather than focusing on a nostalgic evocation of the death of the Republic, became a territory of exploration for literary modernity. The course is offered in English; all texts are provided in translation. One additional hour for the students who are taking the course for Italian credit. Suggested preparation: at least two 200-level literature courses. Approach: Cross-Cultural Analysis (CC). Counts towards: Film Studies. (Spring 2017)

ITAL B215 THE CITY OF NAPLES
Staff
The city of Naples emerged during the Later Middle Ages as the capital of a Kingdom and one of the most influential cities in the Mediterranean region. What led to the city’s rise, and what effect did the city as a cultural, political, and economic force have on the rest of the region and beyond? This course will familiarize students with the art, architecture, culture, and institutions that made the city one of the most influential in Europe and the Mediterranean region during the Late Middle Ages. Topics include court painters in service to the crown, female monastic spaces and patronage, and the revival of dynastic tomb sculpture. Approach: Inquiry into the Past (IP). (Not Offered 2016-2017)

ITAL B219 MULTICULTURALISM IN MEDIEVAL ITALY
Staff
This course examines cross-cultural interactions in medieval Italy played out through the patronage, production, and reception of works of art and architecture. Sites of patronage and production include the cities of Venice, Palermo, and Pisa. Media examined include buildings, mosaics, ivories, and textiles. Approach: Cross-Cultural Analysis (CC); Inquiry into the Past (IP). (Not Offered 2016-2017)

ITAL B229 FOOD IN ITALIAN LITERATURE, CULTURE, AND CINEMA
Staff
Taught in English. A profile of Italian literature/culture/cinema obtained through an analysis of gastronomic documents, films, literary texts, and magazines. We will also include a discussion of the Slow Food Revolution, a movement initiated in Italy in 1980 and now with a world-wide following, and its social, economic, ecological, aesthetic, and cultural impact to counteract fast food and to promote local food traditions. Course taught in English. One additional hour for students who want Italian credit. Prerequisite(s): ITAL 102. Approach: Cross-Cultural Analysis (CC); Critical Interpretation (CI) Counts towards: Film Studies. (Not Offered 2016-2017)

ITAL B235 ITALIAN WOMEN’S MOVEMENT AND NATIONAL IDENTITY: HEROINES IN AND OUT OF THE CANON
Staff
Emphasis will be put on Italian women writers and film directors, who are often left out of syllabi adhering to traditional canons. Particular attention will be paid to: a) women writers who have found their voices (through writing) as a means of psychological survival in a patriarchal world; b) women engaged in the women’s movement of the 70’s and who continue to look at, and rewrite, women’s stories of empowerment and solidarity; c)
“divaism”, fame, via beauty and sex with a particular emphasis on the ’60s (i.e. Gina Lollobrigida, Sofia Loren, Claudia Cardinale). Approach: Critical Interpretation (CI). Counts towards: Gender and Sexuality Studies. (Not Offered 2016-2017)

ITAL B255 UOMINI D’ONORE IN SICILIA: ITALIAN MAFIA IN LITERATURE AND CINEMA
Staff
This course aims to explore representations of Mafia figures in Italian literature and cinema, with reference also to Italian-American films, starting from the ‘classical’ example of Sicily. The course will introduce students to both Italian Studies from an interdisciplinary prospective and also to narrative fiction, using Italian literature written by 19th, 20th, and 21st Italian Sicilian authors. Course is taught in Italian. Prerequisite(s): ITAL B102 or permission of the instructor. Approach: Cross-Cultural Analysis (CC). Counts towards: Film Studies. (Not Offered 2016-2017)

ITAL B301 DANTE
Staff
A reading of the Vita Nuova (Poems of Youth) and The Divine Comedy: Hell, Purgatory and Paradise in order to discover the subtle nuances of meaning in the text and to introduce students to Dante’s tripartite vision of the afterlife. Dante’s masterpiece lends itself to study from various perspectives: theological, philosophical, political, allegorical, historical, cultural, and literary. Personal journey, civic responsibilities, love, genre, governmental accountability, church-state relations, the tenuous balance between freedom of expression and censorship—these are some of the themes that will frame the discussions. Prerequisite(s): at least two 200-level literature courses. (Not Offered 2016-2017)

ITAL B307 INSIDERS AND OUTSIDERS: OTHERNESS IN ITALIAN LITERATURE
Roberta Ricci
This course will introduce students to the most representative works in Italian literature of all genres—poetry, novels, scientific prose, theater, diaries, narrative, epistolary—with special emphasis on topics such as marginalization, exile, political persecution, national identity, memory, violence, and otherness. We will bring works of literature to the attention of students who are interested in the key role played by Italian culture in the development of a European civilization, including the international debate on modernity and post-modernity. Readings and lectures will move from 14th century writers (Dante, Boccaccio) to Humanistic Thought (Florentine political revolution) and the Renaissance (Machiavelli); from the Enlightenment (Foscolo, Leopardi, Manzoni) to modernity (Pirandello, Svevo) and post-modernism (Italo Calvino). (Fall 2016)

ITAL B310 DETECTIVE FICTION
Staff
In English. Why is detective fiction so popular? What explains the continuing multiplication of detective texts despite the seemingly finite number of available plots? This course will explore the worldwide fascination with this genre beginning with European writers before turning to the more distant mystery stories from around the world. The international scope of the readings will highlight how authors in different countries have developed their own national detective typologies while simultaneously responding to international influence of the British-American model. Italian majors taking this course for Italian credit will be required to meet for an additional hour with the instructor and to do the readings and writing in Italian. Suggested preparation: one literature course at the 200 level. Major Writing Requirement: Writing Intensive. Counts towards: Film Studies. (Not Offered 2016-2017)

ITAL B320 NATIONALISM AND FREEDOM: THE ITALIAN RISORGIMENTO IN FOSCOLO, MANZONI, LEOPARDI
Roberta Ricci
This course deals with 19th century Italian poetry and literary movement for Italian unification inspired by the realities of the new economic and political forces at work after 1815. As a manifestation of the nationalism sweeping over Europe during the nineteenth century, the Risorgimento aimed to unite Italy under one flag and one government. For many Italians, however, Risorgimento meant more than political unity. It described a movement for the renewal of Italian society and people beyond purely political aims. Among Italian patriots the common denominator was a desire for freedom from foreign control, liberalism, and constitutionalism. The course will discuss issues such as Enlightenment, Romanticism,
Nationalism, and the complex relationship between history and literature in Foscolo, Manzoni, and Leopardi. This course is taught in Italian.
Prerequisite(s): one 200 level Italian course. (Spring 2017)

ITAL B330 ARCHITECTURE AND IDENTITY IN ITALY: RENAISSANCE TO THE PRESENT
Staff
How is architecture used to shape our understanding of past and current identities? This course looks at the ways in which architecture has been understood to represent, and used to shape regional, national, ethnic, and gender identities in Italy from the Renaissance to the present. The class focuses on Italy’s classical traditions, and looks at the ways in which architects and theorists have accepted or rejected the peninsula’s classical roots. Subjects studied include Baroque Architecture, the Risorgimento, Futurism, Fascism, and colonialism. Course readings include Vitruvius, Leon Battista Alberti, Giorgio Vasari, Jacob Burckhardt, and Alois Riegl, among others. (Not Offered 2016-2017)

ITAL B340 THE ART OF ITALIAN UNIFICATION
Staff
Following Italian unification (1815-1871), the statesman, novelist, and painter Massimo d’Azeglio remarked, “Italy has been made; now it remains to make Italians.” This course examines the art and architectural movements of the roughly 100 years between the uprisings of 1848 and the beginning of the Second World War, a critical period for defining Italiantà. Subjects include the paintings of the Macchiaioli, reactionaries to the 1848 uprisings and the Italian Independence Wars, the politics of nineteenth-century architectural restoration in Italy, the re-urbanization of Italy’s new capital Rome, Fascist architecture and urbanism, and the architecture of Italy’s African colonies. Major Writing Requirement: Writing Intensive. (Not Offered 2016-2017)

ITAL B380 MODERNITY AND PSYCHOANALYSIS: CROSSING NATIONAL BOUNDARIES IN 20TH C. ITALY AND EUROPE
Staff
Designed as an in-depth interdisciplinary exploration of Italy’s intellectual life, the course is organized around major literary and cultural trends in 20th century Europe, including philosophical ideas and cinema. We investigate Italian fiction in the global and international perspective, from modernity to Freud and Psychoanalysis, going beyond national boundaries and proposing ethical models across historical times. Prerequisite(s): one 200-level course in Italian. (Not Offered 2016-2017)

ITAL B398 SENIOR SEMINAR
Roberta Ricci
This course is open only to seniors in Italian and in Romance Languages. Under the direction of the instructor, each student prepares a senior thesis on an author or a theme that the student has chosen. By the end of the fall semester, students must have completed an abstract and a critical annotated bibliography to be presented to the department. See thesis description. (Fall 2016)

ITAL B399 SENIOR CONFERENCE
Roberta Ricci
Under the direction of the instructor, each student prepares a senior thesis on an author or a theme that the student has chosen. In April there will be an oral defense with members and majors of the Italian Department. See thesis description. Prerequisite(s): this course is open only to seniors in Italian Studies and Romance Languages. (Spring 2017)

ITAL B403 SUPERVISED WORK
Staff
Offered with approval of the department. (Fall 2016, Spring 2017)

ITAL B001 ELEMENTARY ITALIAN
Gabriela Troncelliti, Michele Monserrati
The course is for students with no previous knowledge of Italian. It aims at giving the students a complete foundation in the Italian language, with particular attention to oral and written communication. The course will be conducted in Italian and will involve the study of all the basic structures of the language—phonological, grammatical, syntactical—with practice in conversation, reading, composition. Readings are chosen from a wide range of texts, while use of the language is encouraged through role-play, debates, songs, and creative composition. Approach: course does not meet an Approach. (Fall 2016)
ITAL B002 ELEMENTARY ITALIAN II
This course is the continuation of ITAL B001 and is intended for students who have started studying Italian the semester before. It aims at giving the students a complete foundation in the Italian language, with particular attention to oral and written communication. The course will be conducted in Italian and will involve the study of all the basic structures of the language—phonological, grammatical, syntactical—with practice in conversation, reading, composition. Readings are chosen from a wide range of texts, while use of the language is encouraged through role-play, debates, songs, and creative composition. Prerequisite(s): ITAL B001 or placement. Approach: course does not meet an Approach. (Spring 2017)
LATIN AMERICAN, IBERIAN & LATINO STUDIES
haverford.edu/lails

The Latin American, Iberian and Latino Studies Concentration is an interdisciplinary program for students majoring in a related discipline who wish to undertake a comprehensive study of the cultures of Spanish America, Brazil, or the Iberian Peninsula (Spain and Portugal).

Students supplement a major in one of the cooperating departments (e.g., history, history of art, religion, political science, anthropology, psychology, economics, comparative literature, linguistics or Spanish) with courses that focus on Latin American, Iberian, and US-Latino issues and themes.

LEARNING GOALS
• Students will develop a substantial understanding of the diverse people, cultures and histories of the Latin American and Iberian worlds, including US-Latinos.
• Students will enhance their studies within established majors through a coordinated multi- and interdisciplinary focus on specific regions, cultural zones and languages.

CONCENTRATION REQUIREMENTS
Requirements for the concentration (six courses and one essay):
• Concentrators must demonstrate competence in Spanish to be achieved no later than the junior year, demonstrated by the completion of at least one course in Spanish at the 200 level or above.
• SPAN/ICPR 240 at Haverford, or General Studies 145 at Bryn Mawr. One of these two courses will be taught every year, usually in spring, alternating between Haverford and Bryn Mawr.
• At least two, and no more than three, courses must be completed in the departmental major.
• At least two other courses in Latin American or Iberian Studies, representing at least two departments outside of the major. These courses are to be chosen from the offerings listed under the concentration in the Catalog or the Course Guide. Students should consult with their advisers as to which courses are most appropriate for their major and special interests: some apply more to Latin America, some to the Iberian Peninsula and others to the United States. Students may have other courses approved to fulfill this requirement if they can demonstrate their pertinence to the concentration. The concentration coordinator will approve courses not listed in the Catalog or Course Guide on a case-by-case basis. These can include courses offered at Bryn Mawr, Swarthmore, the University of Pennsylvania, or in approved study abroad programs.
  • One of the courses fulfilling the third or fourth bullet point must be at the 300 level.
  • A long paper (at least 20 pages) on Latin America, the Iberian Peninsula, or the Latino experience in the United States to be completed no later than the first semester of the senior year, as part of the work for a course in the student’s major or the concentration. Students must submit in advance a proposal for the paper topic, accompanied by a bibliography, for the concentration coordinator’s approval. Although the topic is open and should reflect the student’s interests in a particular discipline, the paper should demonstrate the student’s ability to discuss cogently the history, literature, social, or political thought of Latin America or Spain as it applies to the individual student’s research project. The concentration coordinator may on a case-by-case basis approve creative works, such as films and other types of art requiring work comparable to a long paper, to fulfill this requirement.

AFFILIATED PROGRAMS
Accelerated Degree Program with the Center for Latin American Studies at Georgetown University
Haverford has been invited to join other distinguished colleges and universities in an agreement with the Center for Latin American at Georgetown University to participate in a five-year joint degree program. The cooperative agreement allows undergraduate concentrators in Latin American, Iberian and Latino Studies to pursue an accelerated course of study in a graduate degree.
The program offers the highest qualified applicants the opportunity to count four courses from their undergraduate study toward the M.A. program in Latin American Studies at Georgetown University, enabling them to complete the degree in two semesters and one summer.

The five-year B.A.-M.A. program is designed for those students who demonstrate excellence at the undergraduate level. Qualified undergraduates must maintain a minimum GPA of 3.5, declare an interest in the Accelerated Degree Program during their junior year, and participate in the Center’s summer study abroad program. During the senior year, candidates apply through the normal Georgetown M.A. application cycle. If accepted into the M.A. program, students may transfer up to four courses (two from the CLAS summer study program in Mexico or Chile and two advanced courses from the undergraduate institution) to be applied to the M.A. All M.A. prerequisites must be completed during the student’s undergraduate education, and students must have concentrated in Latin American Studies at the undergraduate level.

For more detailed information, consult with the LAILS coordinator or visit the Georgetown Center for Latin American Studies website (clas.georgetown.edu/academics/accelerated).

**FACULTY**

**Ana López Sánchez**
Program Coordinator and Associate Professor of Spanish

**Roberto Castillo Sandoval**
Associate Professor of Spanish and Comparative Literature

**Israel Burshatin**
Barbara Riley Levin Professor of Comparative Literature and Professor of Spanish

**Aurelia Gómez Unamuno**
Assistant Professor of Spanish

**Ariana Huberman**
Visiting Associate Professor

**Anita Isaacs**
Benjamin R. Collins Professor of Social Sciences

**James Krippner**
Professor

**Brook Lillehaugen** (on leave Fall 2016)
Assistant Professor

**Graciela Michelotti**
Associate Professor of Spanish and Chair of Spanish Department

**Paulina Ochoa Espejo**
Associate Professor of Political Science

**COURSES**

**SPANH201 EXPLORING CRITICAL ISSUES THROUGH WRITING**
Ana López Sánchez
The course aims to provide students with the skills necessary to successfully undertake writing assignments in the upper-division Spanish courses. Students will be engaged in discussions of, and write about topics such as identity, borders and migrations, and manifestations of violence.
Prerequisite: SPAN 102, placement, or consent; Enrollment Limit: 15 Humanities (HU)

**SPANH203 WRITING THE JEWISH TRAJECTORIES IN LATIN AMERICA**
Ariana Huberman
“Jewish Gauchos,” “Tropical Synagogues,” “Poncho and Talmud,” “Matza and Mate.” This course will examine the native and diasporic worlds described in the apparent dichotomies that come together in the Latin American Jewish Literature. The class will trace the different trajectories of time, space and gender of the Jewish experience in Latin America, where issues of migration, memory and hybridization come to life through poetry, narrative and drama.
Prerequisite: Spanish 102, placement, or consent.
Enrollment Limit: 25; Humanities (HU)

**SPANH205 STUDIES IN THE SPANISH AMERICAN NOVEL**
Ariana Huberman
Investigating the Past in Latin American Contemporary Narratives. This course examines issues of memory and identity in the context of personal and national stories/histories. The course will analyze recently published novels, and short stories (including some film adaptations) by representative writers from the region. Course is taught in Spanish.
Prerequisite(s): SPAN 102, placement, or consent of the instructor.
Enrollment Limit: 25; Humanities (HU)
SPANH206 DIGITALLY NARRATING
SECOND LANGUAGE IDENTITIES

SPANH221 NARRATING MODERN MEXICO
Aurelia Gómez Unamuno
This course approaches the reconstruction of the nation after the Mexican Revolution and its relevance in foundational narratives. Through literary texts and visual production including the Mexican Muralism, photography and films, this course analyses the Mexican Revolution and the post-revolutionary process stressing the tensions, contradictions, and debts of the Mexican Revolution to rural sectors including campesino and indigenous groups. Enrollment Limit: 25; Div: III; Humanities (HU)

SPANH266 IBERIAN ORIENTALISM AND THE NATION
Israel Burshatin
This course examines cultural production in the frontier cultures of medieval Iberia and the patterns of collaboration and violence among Islamic, Christian, and Jewish communities. Other topics include Christian “reconquest” and the construction of Spanishness as race and nation; foreign depictions of Spain as Europe’s exotic other; internal colonialism and Morisco resistance; contemporary African migrations. Div: III; Humanities (HU)

SPANH273 THE INVENTION OF PABLO NERUDA: POETICS AND POLITICS
Roberto Castillo Sandoval
This course deals with the principal works of Pablo Neruda’s long career as a poet. Close readings of his major poems will be accompanied by an examination of the criticism and reception of Neruda’s poetry at different stages of his trajectory. Special attention will be paid to the creation and elaboration of Neruda’s image as a poet, cultural icon, and political figure in Chile and in the Spanish-speaking world. Prerequisite: SPAN 102, placement, or consent of the instructor. Enrollment Limit: 25; Lottery Preferences: Spanish majors, minors, and LAILS concentrators. Div: III; Humanities (HU)

SPANH307 TALLER LITERARIO: WRITING SHORT FICTION IN SPANISH
Roberto Castillo Sandoval
A fiction-writing workshop for students whose Spanish-writing skills are at an advanced level. The class will be conducted as a combination seminar/workshop, with time devoted to discussion of syllabus readings and student work. The course will focus on essential matters of craft and technique in creative writing (point of view, voice, dialogue, narrative structure, etc.). Principally, we will be concerned with how stories work rather than what they mean. This perspective can prove a useful lens for reconsidering works long accepted as “great,” and a practical method for developing individual styles and strategies of writing. Enrollment Limit: 12; Div: III; Humanities (HU)

SPANH316 WOMEN AND THE ARMED STRUGGLE IN LATIN AMERICA

SPANH322 POLITICS OF MEMORY IN LATIN AMERICA
Aurelia Gómez Unamuno
This course explores the issue of memory, the narration of political violence and the tension between truth and fiction. A selection of documents, visual archives and documentary films are compared with literary genres including testimonies memories, diaries, poetry, and fiction writing. This course also compares the coup and dictatorship of Pinochet, with the repression of the student movement of 68, and the guerrilla warfare in Mexico. Humanities (HU)

SPANH334 GENDER DISSIDENCE IN HISPANIC WRITING
Israel Burshatin
Study of the dissenting voices of gender and sexuality in Spain and Spanish America and US Latino/a writers. Interrogation of “masculine” and “feminine” cultural constructions and “compulsory heterosexuality,” as well as exemplary moments of dissent. Texts to be studied include Hispano-Arabic poetry, Fernando de Rojas’s Celestina; Tirso de Molina, Don Gil de las calzas verdes; Teresa of Avila, Gloria Anzaldúa, and Reinaldo Arenas. Prerequisite: A 200-level course or consent of the instructor. Div: III; Humanities (HU)

SPANH340 THE MOOR IN SPANISH LITERATURE
Israel Burshatin
This course examines cultural production in the frontier cultures of medieval Iberia against a background of collaboration and violence among Islamic, Christian, and Jewish communities. Other topics include the myth of Christian “Reconquest”/Reconquista; the construction of Spanishness as race and nation in the context of the first global
empire; idealization of Moors in narrative and material culture; Moors and Jews in the discourses of gender and sexuality; internal colonialism and Morisco resistance; perceptions of Spain as exotic or abject other in the Northern European or US imaginary; contemporary African migrations and the “return of the repressed” of imperial Spain. This class is conducted in Spanish. This course fulfills the “pre 1898” requirement. Humanities (HU)

**SPANH365 THE POLITICS OF LANGUAGE IN THE SPANISH-SPEAKING WORLD**  
*Ana López Sánchez*

The course will explore the relationship between (national) identity and language, and the specific outcomes of (language) policies and educational practices in societies where Spanish is spoken, generally alongside other mother tongues, often as the dominant language, but also in a minority situation. Crosslisted: SPAN and LING; Div: III; Humanities (HU)

**SPANH385 POPULAR CULTURE, IDENTITY, AND THE ARTS IN LATIN AMERICA**  
*Roberto Castillo Sandoval*

**ANTTH250 READING MEXICO, READING ETHNOGRAPHY**  
*Patricia L. Kelly*

This course examines the ethnography of contemporary Mexico, focusing upon themes such as gender, ethnic, and class inequality; social movements and protest; nationalism and popular culture; and urbanization and migration. Class will begin by exploring various approaches to reading, writing, and analyzing ethnographic texts; through deep reading of select ethnographies, we will examine the relationships between power, culture, and identity in Mexico while assessing current trends in anthropological fieldwork and ethnographic writing. Enrollment Limit: 25; Social Science (SO)

**COMLH210 SPANISH AND SPANISH AMERICAN FILM STUDIES**  
*Graciela Michelotti*

Exploration of films in Spanish from both sides of the Atlantic. The course will discuss approximately one movie per class, from a variety of classic and more recent directors such as Luis Buñuel, Carlos Saura, Pedro Almodóvar, Lucrecia Martel among others. The class will focus on the cinematic discourse as well as the cultural and historic background of each film. The course will also provide advanced language training with particular emphasis in refining oral and writing skills. Prerequisite(s): SPAN 102, or placement, or consent of instructor. Div: III; Humanities (HU)

**COMLH214 WRITING THE NATION: 19TH-CENTURY LITERATURE IN LATIN AMERICA**  
*Ariana Huberman*

An examination of seminal literary texts written in Latin America in the nineteenth century. Novels, essays, travelogues, short stories, miscellaneous texts, and poetry will be analyzed and placed in the context of the process of nation-building that took place after Independence from Spain. A goal of the course will be to establish and define the nexus between the textual and ideological formations of 19th-century writings in Latin America and their counterparts in the 20th-century. Crosslisted: COML and SPAN; Prerequisite(s): SPAN 102, placement, or consent of instructor. Enrollment Limit: 25; Humanities (HU)

**COMLH250 QUIXOTIC NARRATIVES**  
*Israel Burshatin*

Study of Cervantes, Don Quixote and of some of the works of fiction, criticism, philosophy, music, art and film which have drawn from Cervantes’s novel or address its formal and thematic concerns, including self-reflexivity, nation and narration, and constructions of gender, class, and “race” in narrative. Other authors read include Borges, Foucault, Laurence Sterne, Graham Greene, Vladimir Nabokov, and Kathy Acker. Course taught in English. This course fulfills the “pre 1898” requirement. Crosslisted: COML and SPAN; Enrollment Limit: 25; Humanities (HU)

**HISTH114 ORIGINS OF THE GLOBAL SOUTH**  
*James Krippner*

This course examines the first phase of “globalization” in world history, covering approximately the years from 1300-1800. During the first half of the semester, we will analyze the interconnections and distinct trajectories of core regions within the ancient and medieval world, focusing on Asia, Africa and the Americas. In the second half of the semester we will assess the economic, social and cultural relationships negotiated during the emergence of Iberian (Portuguese and Spanish) colonialism and the redefinition of the Atlantic World in the centuries.
LATIN AMERICAN, IBERIAN, & LATINO STUDIES

following 1492. The course concludes with an intensive study of the Haitian Revolution (1791-1804), the first successful anti-colonial revolution in world history and one of several late-eighteenth century popular rebellions signaling the dawn of modernity. Div: III; Social Science (SO)

HISTH209 MODERN LATIN AMERICA  
*James Krippner*

HISTH317 LATIN AMERICAN BAROQUE  
*James Krippner*

HISTH307 RELIGION, POWER, AND POLITICS IN LATIN AMERICA  
*James Krippner*  
This course analyzes the connections between religion, power and politics across Latin America from the sixteenth century through the recent past. Topics to be considered include Christianity and colonization; the Inquisition and religious persecution; abolitionism and the end of slavery; the emergence of Liberation Theology and its intersection with resistance, rebellion and revolution on the popular level; and recent efforts at post conflict reconciliation and peace building. Social Science (SO)

POLSH208 POLITICAL THOUGHT IN THE GLOBAL SOUTH: THE CASE OF LATIN AMERICA  
*Paulina Ochoa Espejo*  
What can political thought in the Global South teach the world? We will ask fundamental questions in political philosophy (about power, race and inequality) through the writings of Latin American thinkers from Colonial times to the 20th C. Prerequisite(s): Any 100 Political Science, History 114, 208, 209 (origins of the global south, colonial and modern Latin America), Independent Programs 240 (Latin American or Iberian Cultures and Civilization); Enrollment Limit: 25; Lottery Preferences: 5 spaces reserved for Political Science, 5 spaces reserved for Latin American and Iberian Studies concentration; Social Science (SO)
As a discipline, linguistics examines the structural components of sound, form, and meaning, and the precise interplay between them. Modern linguistic inquiry stresses analytical and argumentation skills, which prepares students for future pursuits in any field in which such skills are essential. Linguistics is also relevant to other disciplines, such as psychology, philosophy, mathematics, computer science, sociology and anthropology, and some of our students choose to double major with one of them.

LEARNING GOALS

- Examine the structural components of sound, form, and meaning, and the precise interplay between them.
- Interact with the field of linguistics through a series of foundation courses in linguistics theory and methodology.
- Hone analytical and argumentation skills, and prepare for future pursuits in any field to which such skills are essential, including psychology, neuroscience, philosophy, mathematics, computer science, computational linguistics, sociology, and anthropology.
- Apply theoretical and methodological tools to the analysis of linguistic data, particularly in forming and testing hypotheses, and arrive at conclusions that the data and arguments support.
- Understand how language influences the way we interact with each other and with the larger world around us.
- Investigate how people acquire their knowledge about language, how this knowledge interacts with other cognitive processes and how it varies across speakers and geographic regions.

MAJOR REQUIREMENTS

- One course from each of the following categories:
  - Sounds: LING H115 at Haverford (HC) or LING S045 at Swarthmore (SC)
  - Forms: LING H113 at HC or LING S050 at SC
  - Meanings: LING H114 at HC or LING S040 or S026 at SC
- One course from the Structure of a Non-Indo-European Language series, typically LING H215, or LING H282 at HC, or LING S061, S062, S064 at SC.
- Three elective courses in linguistics or related fields. (For Linguistics and Language majors, instead of electives, they must study two different languages with three credits from each, with at least one credit at the Third-Year level for each of the two languages.)
- All Bi-Co linguistics majors should register for LINGH399 in the fall of their senior year and complete a one-credit senior thesis by the end of the fall semester. (Seniors will be assigned different faculty advisors once they choose a thesis topic during the first two weeks, and they may then switch to the appropriate senior seminar sections if necessary.) The thesis constitutes the comprehensive requirement.

MINOR REQUIREMENTS

Students may minor in linguistics through Haverford by completing six credits in the following three areas:

Mandatory Foundation Courses (three credits)

- LING H113 or LING S050 (Introduction to Syntax)
- LING H114 or LING S040 (Introduction to Semantics)
- LING H115 or LING S045 (Phonetics and Phonology)

Structure of a Non-Indo-European Language Courses (choose one from the following samples of relevant courses)

- LING H215 (Structure of Colonial Valley Zapotec)
- LING H282 (Structure of Chinese)
- LING S060 (Structure of Navajo)
- LING S062 (Structure of American Sign Language)
- LING S064 (Structure of Tuvan)

Elective Courses (choose two from the following samples of relevant courses):

- LING B101 or LING H101 (Introduction to Linguistics)
- LING/ENGL H213 (Inventing [the] English)
- LING/PSYC H238 (The Psychology of Language)
- LING/PHIL H253 (Analytic Philosophy of Language)
LINGUISTICS

- LING/PHIL H260 (Historical Introduction to Logic)
- LING/ANTH B281 (Language in the Social Context)
- LING/CMSC H308 (Computational Linguistics)
- LING/SPAN H365 (The Politics of Language in the Spanish-Speaking World)

The department accepts all linguistics courses offered at Swarthmore for minor credits for the appropriate categories.

SENIOR PROJECT

Majors in our department are recommended to take the Junior Seminar LING S090 (Advanced Research Methods in Linguistics), in the spring term of their junior year. This course is designed to expose students to the classic literature on the major subfields in linguistics, familiarizing them to the theoretical frameworks, methodologies, and bibliographies, culminating in the selection of a potential topic, working and reworking on a thesis abstract with references. Students have also been encouraged to take an upper level seminar course in the subfield where they will most likely choose a thesis topic.

Linguistics seniors write their thesis in the fall semester. For the first four weeks, students present their thesis topic for faculty approval (Week 1), get assigned a faculty adviser (Week 2), in some cases two faculty advisers, and give a 10-minute presentation of their thesis outline with student group feedback, abstract writing (Week 3), and annotated bibliography (Week 4), all under close faculty supervision.

After the group work is done, students meet with their advisers individually during the thesis writing process.

First draft is due on the 7th week, which will be read by their faculty adviser and the first student reader, who will provide written comments. Second draft is due on the 11th week and will be read by their faculty adviser and the second student reader, who will provide written comments.

Third (and final) draft is due on the 13th week, followed with an oral thesis defense with the first and second faculty readers.

The final revised version of the thesis is due on the last day of the fall semester.

Senior Project Learning Goals

- Examine the structural components of sound, form, and meaning, and the precise interplay between them.
- Interact with the field of linguistics through a series of foundation courses in linguistics theory and methodology.
- Stress analytical and argumentation skills, preparing students for future pursuits in any field to which such skills are essential, including psychology, neuroscience, philosophy, mathematics, computer science, computational linguistics, sociology, and anthropology.
- Apply theoretical and methodological tools to the analysis of linguistic data, particularly in forming and testing hypotheses, and arrive at conclusions that the data and arguments support.
- Understand how language influences the way we interact with each other and with the larger world around us.
- Investigate how people acquire their knowledge about language, how this knowledge interacts with other cognitive processes and how it varies across speakers and geographic regions.

Senior Project Assessment

Faculty members are assigned as first and second readers to each thesis after the senior major has decided on a topic in the beginning of the fall semester.

The senior thesis is evaluated on the following criteria:

Fundamentals:
- Does the student demonstrate a comprehensive understanding of elementary concepts in linguistics, such as the underlying goals of linguistic inquiry, basic units of linguistic analysis (phonemes, morphemes, constituency, entailment, etc.), and distinctions important to linguistics (prescriptive/descriptive, competence/ performance, phoneme/allophone, form/function, etc.)? Does the student demonstrate familiarity with essential literature?

Tools and Methods:
- Does the student select and correctly implement methods and formal theories appropriate for
their work? Does the student correctly use standard, professional linguistics formatting and notation for transcriptions, glosses, OT tableaux, syntactic structures, semantic interpretations, citations and references, etc.? Does the student correctly use standardly accepted technical jargon (“allomorph”, “adjunct”, “implicature”, etc.) rather than vague descriptions or nonstandard terminology? Does the student correctly use appropriate linguistics technology (Praat, ELAN, etc.)? At the level of technical details, does the student’s work look like it was written by a linguist (rather than, say, by a historian or chemist)?

Ethics:
- Does the student demonstrate a full understanding of best practices for responsible and ethical collection, storage, and use of data in ways that respect the relevant speakers and their communities and cultures? Does the student demonstrate a commitment to appropriate collaboration with speakers and communities? (N.B. This learning outcome may not be relevant to work that does not use primary data, in which case, this should normally be assessed as “N/A”.)

General Scientific Methodology:
- **Data Collection and Presentation**
  Does the student demonstrate an understanding of proper scientific methodology for collecting data (survey design, selection of participants, establishing controls, eliciting useful contrasts and paradigms, etc.)? Does the student organize data in meaningful ways that clearly demonstrate important patterns (minimal pairs, morphological paradigm tables, logical blocks of related utterances, etc.)?
- **Analysis**
  Does the student construct useful, appropriate hypotheses to explain the observed patterns in the data? Are these hypotheses rigorously and clearly formulated? Does the student sufficiently explore logically plausible alternative hypotheses? Does the student convincingly argue for why their hypotheses are superior to the logical alternatives?

Critical Thinking Skills:
- **Advanced Literature**
  Does the student draw upon relevant advanced literature in meaningful ways? Does the student demonstrate an understanding of crucial data, analyses, results, models, predictions, etc. from this advanced literature?
- **Innovation**
  Is the student’s work innovative in some way that makes it stand out as more than just superficial description and/or straightforward application of tried-and-true analytical tools? Does the student articulate novel and insightful claims about a specific language, language itself, or linguistics more broadly? Is the student’s work noteworthy, at least in part, because of the student’s particular insights?

Quality of Prose:
- **Coherence, Structure, Fluidity, etc.**
  Is the student’s prose professional and polished, in line with general standards of academic writing? Is the student’s prose clear and logically structured? Are individual sentences coherent and grammatical? Do sentences and paragraphs flow fluidly from one to the next? Does the student’s prose strike an appropriate balance between being concise and being sufficient? Would the student’s prose pass muster for publication in a journal?

**REQUIREMENTS FOR HONORS**
Honors will be granted, at the discretion of the faculty members, to those senior majors who have consistently distinguished themselves in major-related course work (typically with a GPA of 3.7 or higher), active and constructive participation in the intellectual life of the department, and an outstanding senior thesis. A senior major may receive high honors if deemed exceptional in all three areas.

**STUDY ABROAD**
Majors in the Linguistics Department can receive up to two elective credits for pre-approved courses taken at departments on the College’s list of study abroad programs. Interested students should seek consultation with, and approval from, the Bi-Co chair of the department prior to studying abroad, and be ready to provide course descriptions during consultation and transcripts afterwards for proper credit counting towards the major.

**FACULTY**
**At Haverford:**
Shizhe Huang
Co-Chair and Associate Professor of Chinese and Linguistics; C.V. Starr Professor of Asian Studies
LINGUISTICS

Brook D. Lillehaugen  
(on leave, Fall 2016)  
Assistant Professor of Linguistics (Tri-College)

Nathan Sanders  
Visiting Assistant Professor of Linguistics

At Swarthmore:
Theodore B. Fernald  
Professor and Co-Chair

K. David Harrison  
Professor

Donna Jo Napoli  
Professor

Beppie Van Den Bogaerde  
Julian and Virginia Cornell Visiting Professor

Jamie A. Thomas  
Assistant Professor

Jonathan North Washington  
Assistant Professor

Emily A. Gasser  
Visiting Assistant Professor

Patricia L. Irwin  
Visiting Assistant Professor

Peter Klecha  
Visiting Assistant Professor

Affiliated Faculty at Haverford:
Marilyn Boltz  
Professor of Psychology

Jane Chandlee  
Visiting Assistant Professor of Computer Science

Danielle Macbeth  
T. Wistar Brown Professor of Philosophy

Maud McInerney  
Associate Professor of English

Ana López-Sánchez  
Associate Professor of Spanish

At Bryn Mawr
Deepak Kumar  
Professor of Computer Science

Amanda Weidman  
Associate Professor of Anthropology

COURSES
LINGH101 INTRODUCTION TO LINGUISTICS
Brook Lillehaugen, Nathan Sanders  
An introductory survey of linguistics as a field. This course examines the core areas of linguistic structure (morphology, phonology, syntax, semantics), pragmatics, and language variation in relation to language change. The course provides rudimentary training in the analysis of language data, and focuses on the variety of human language structures and on the question of universal properties of language. Humanities (HU)

LINGH113 INTRODUCTION TO SYNTAX
Nathan Sanders  
This course is a hands-on investigation of sentence structures in human language. This is a participation intensive course. Collectively, the class will develop an increasingly complex syntactic theory starting with basic assumptions and seeing where they lead. In the process, students will develop skills in observing syntactic patterns and analyzing these patterns in order to come to some generalizations on their own. Humanities (HU)

LINGH114 INTRODUCTION TO SEMANTICS
Shizhe Huang  
This course focuses on the study of meaning in human language. We will explore semantic issues that arise from the lexicon, the sentences, and the discourse. Along the way, we will investigate not only the semantic structure of natural language but also pragmatic factors that affect language use. This is a participation-intensive course. In the process, students will not only learn the basic semantic theory but will also develop skills in observing semantic patterns and analyzing these patterns in order to come to some generalizations on their own. Humanities (HU)

LINGH115 PHONETICS AND PHONOLOGY
Nathan Sanders  
This course investigates the sound patterns found in human languages. Phonetics is the study of these patterns from a physical and perceptual perspective while phonology is the study of sound patterns

Haverford College Catalog 2016-2017
from a cognitive perspective. Activities in the class will expose students to the methodologies used by both perspectives (articulatory description and acoustic analysis for phonetics and formal theoretical models for phonology) and show the necessity and utility of both approaches in understanding the nature of sound patterns in human language. Humanities (HU)

**LINGH116 SYNTAX II**

*Staff*
This course is a sequel to LING 113—Introduction to Syntax. It is designed to provide further training in formal syntax, in terms of both data analysis and the fundamentals of syntactic theory. Students will read Government-Binding (GB) theory to consolidate what they have learned in Syntax I, then will move quickly to more advanced topics, such as constraints on A'-movement, the nature and location of argument positions, and the properties of Logical Form. The second part of the course features close reading of several major articles of the past 25 years, as a way of exploring both the details of the theory and some of the rich cross-linguistic data that supports it. Prerequisite(s): LING 113 Intro to Syntax (Haverford), or LING 050 Syntax (Swarthmore); Humanities (HU)

**LINGH215 THE STRUCTURE OF COLONIAL VALLEY ZAPOTEC**

*Brook Lillehaugen*
A detailed examination of the grammar of Colonial Valley Zapotec, an indigenous language of Oaxaca, Mexico. Focus on hands-on research, paleography, morphological analysis, and translation of archival documents. Prerequisite(s): LING 213; and one of the following: LING 101, 114, 115, or permission of the instructor; Humanities (HU)

**LINGH238 PSYCHOLOGY OF LANGUAGE**

*Marilyn Boltz*
An interdisciplinary examination of linguistic theory, language evolution, and the psychological processes involved in using language. Topics include speech perception and production, processes of comprehension, language and the brain, language learning, language and thought, linguistic diversity, and conversational interaction. Prerequisite(s): PSYC 100 or PSYC 105 or Psychology AP Score 4+ or consent; Crosslisted: PSYC; Social Science (SO)

**LINGH282 STRUCTURE OF CHINESE**

*Shizhe Huang*
This course is designed to acquaint students with both the syntactic and semantic structures of Mandarin Chinese and the theoretical implications they pose to the study of natural language. Students will have an opportunity to further their understanding of linguistic theories and to develop skills in analyzing a non-Indo-European language systematically. Prerequisite(s): At least two of the following: LING 101, 113, 114, or permission of the instructor. Priority to seniors and juniors. (Knowledge of Chinese is NOT required.) Social Science (SO)

**LINGH365 THE POLITICS OF LANGUAGE IN THE SPANISH-SPEAKING WORLD**

*Ana López-Sánchez*
The course will explore the relationship between (national) identity and language, and the specific outcomes of (language) policies and educational practices in societies where Spanish is spoken, generally alongside other mother tongues, often as the dominant language, but also in a minority situation. Crosslisted: SPAN; Humanities (HU)

**LINGH399 SENIOR THESIS SEMINAR**

*Shizhe Huang*
This seminar exposes students to linguistic research methods and guides them through the conceptualization of a topic, the research, and the writing of a senior thesis. All linguistics majors must write their senior thesis in this seminar or LING 100 or 195. Humanities (HU)
Mathematics and economics are complementary disciplines. Most branches of modern economics use mathematics and statistics extensively, and some important areas of mathematical research have been motivated by economic problems. Economists and mathematicians have made important contributions to one another’s disciplines. Economist Kenneth Arrow, for example, did path-breaking work in the field of mathematical optimization, and in 1994, Mathematician John Nash was awarded the Nobel Prize in economics for work he did in game theory that has become central to contemporary economic theory. Haverford’s Area of Concentration in Mathematical Economics enables students in both disciplines not only to gain proficiency in the other, but also to appreciate the ways in which they are related.

Economics students with a variety of backgrounds and career interests can benefit from completing the concentration. The mathematics courses the concentration requires are extremely valuable for students interested in pursuing graduate study in economics. A strong mathematical background is also an asset for students going on to business school or graduate programs in public policy. Many economics-related jobs in government, business, and finance require strong quantitative skills, and the concentration prepares students interested in seeking such positions.

The concentration can also benefit mathematics majors. Many students find mathematics more exciting and meaningful when they see it applied to a discipline they find interesting and concrete. Almost every undergraduate mathematics course covers topics useful in economic applications: optimization techniques in multivariable calculus, quadratic forms in linear algebra, and fixed point theorems in topology. In intermediate and advanced courses in economics, mathematics majors can see how these tools and methods are applied in another discipline.

**LEARNING GOALS**

Students in Area of Concentration in Mathematical Economics will:
- engage in theoretical and empirical analysis of economic problems using formal theoretical and empirical methods.
- develop tools and techniques, including the use of formal arguments, numerical computations, and empirical analysis, to understand the logic, validity and robustness of various economic ideas.
- recognize that most branches of modern economics use mathematics and statistics extensively, and that some important areas of mathematical research have been motivated by economic problems.
- understand the complementarities between the two disciplines to gain proficiency in each, and appreciate the ways in which they are related.

**CONCENTRATION REQUIREMENTS**

Students enrolling in the Area of Concentration in Mathematical Economics must major in either mathematics or economics.

For students majoring in mathematics, the Concentration requires six courses:
- Three required mathematics courses:
  - ECON 105 or 106 (Introduction to Economics). (Students who, with permission of the Economics Department, place out of ECON 105/106, must replace ECON 105/106 with an economics elective at the 200 level or above.)
  - ECON 204 (Economic Statistics with Calculus), or an applied statistics course offered by the economics or mathematics department at an equivalent or higher level.
  - ECON 300 (Intermediate Microeconomics).
- One additional elective in economics at the 200 level or above.
- Two mathematics electives on topics with significant relevance or applicability to economics. (Students may count these courses toward fulfillment of the mathematics major as well as the Area of Concentration in Mathematical Economics.)

For students majoring in economics, the Concentration requires six courses:
- Three required mathematics courses:
  - MATH 121 (Multivariable Calculus) or MATH 216 (Advanced Calculus)
  - MATH 215 (Linear Algebra)
  - MATH 317 (Analysis I)
MATHEMATICAL ECONOMICS

- One additional elective in mathematics at the 200 level or above.
- Two economics electives involving significant applications of mathematical methods.
  (Students may count these courses toward fulfillment of the economics major as well as the Area of Concentration in Mathematical Economics.)

Students must consult with the concentration coordinator, or the economics or mathematics department representative (as appropriate), about selecting the electives for the concentration (as explained in the requirements above).

Additional Remarks
The Area of Concentration in Mathematical Economics differs from the minors in mathematics and economics in a specific way: it focuses on the complementarities between the two disciplines; the minors in mathematics and economics are designed to provide a basic foundation in each discipline, but not necessarily an inter-disciplinary orientation.

A student majoring in economics may choose to pursue either the Area of Concentration in Mathematical Economics or a minor in mathematics, but not both. A student majoring in mathematics may choose to pursue either the Area of Concentration in Mathematical Economics or a minor in economics, but not both. A student double-majoring in economics and mathematics may not enroll in the Area of Concentration in Mathematical Economics.

RELATED COURSES
Below is a list of courses that have fulfilled the mathematics and economics elective requirements in previous years. This list is neither definitive nor exhaustive. It is subject to change. Students are strongly encouraged to consult with the concentration coordinator or department representative when choosing electives.

Mathematics Electives
- MATH 210 Linear Optimization and Game Theory; cross-listed as ECON 210
- MATH 218 Probability
- MATH 222 Scientific Computing
- MATH 231 Discrete Mathematics
- MATH 328 Mathematical Statistics
- MATH 340 Analysis of Algorithms
- MATH 360 Mathematical Economics; cross-listed as ECON 360
- MATH 396 Advanced Topics in Probability and Statistics.

Economics Electives
- ECON 210 Linear Optimization and Game Theory; cross-listed as MATH 210
- ECON 237 Game Theory in Economics
- ECON 355 Advanced Microeconomics: Uncertainty
- ECON 360 Mathematical Economics; cross-listed as MATH 360
- ECON 374 Jr. Research Seminar: Topics in Industrial Organization
- ECON 377 Junior Research Seminar: Political Economy

FACULTY/COORDINATORS
Richard Ball
Associate Professor of Economics, Economics Department Representative and Concentration Coordinator

Lynne Butler
Professor of Mathematics and Statistics, Mathematics Department Representative
MATHEMATICS AND STATISTICS
haverford.edu/mathematics

The courses in the Department of Mathematics and Statistics aim to:

• promote rigorous thinking in a systematic, deductive, intellectual discipline.

• help students identify and articulate mathematical and statistical problems that they encounter, both in formal academic work and elsewhere.

• foster technical competence in mathematics and statistics as an aid to the better comprehension of the physical, biological, and social sciences.

• guide and direct majors toward an interest in research in the mathematical and statistical sciences.

LEARNING GOALS
Students taking courses in the Department of Mathematics and Statistics will think rigorously and systematically both within the context of the discipline and in its applications—and, ideally, throughout the liberal arts curriculum. Students will learn to identify and articulate mathematical problems that they encounter, both in mathematics and in other disciplines. Students will develop skills necessary to engage these problems within a mathematical and/or statistical framework. Finally, students will learn how to communicate their mathematical and statistical findings to a variety of audiences.

CURRICULUM
Mathematics majors take a three-year core sequence of courses in calculus, linear algebra, abstract algebra, and analysis, designed to provide a foundation for further study in the major areas of modern mathematics. Students with substantial advanced placement may complete this sequence by the end of their sophomore year. Students who have completed the core sequence may take advanced courses in algebra, analysis, topology, or other special topics.

Mathematics courses for majors fall into six general categories:

Preliminary Calculus
This category includes MATH 105, 118, or advanced placement. These are not listed among the requirements, but are of course prerequisites for all subsequent courses in mathematics.

Intermediate Calculus/Linear Algebra
This category includes MATH 215, 216. These courses are taught for the benefit of both majors and non-majors, but are the real “introduction” to math for most majors.

Core Major Courses
This category includes MATH 317-318 (Analysis) and MATH 333-334 (Algebra). These courses are the “cornerstone” of the major, introducing many important ideas in which modern mathematics is based, and also sharpening students’ skills in mathematical discourse (i.e., careful statements of definitions, theorems, proofs).

Intermediate Electives
• MATH 203 (Statistical Methods and Their Applications)
• MATH 204 (Differential Equations)
• MATH 210 (Linear Optimization and Game Theory)
• MATH 218 (Probability)
• MATH 222 (Introduction to Scientific Computing)
• MATH/CMSC 235 (Information and Coding Theory)
• MATH 286 (Applied Multivariate Statistical Analysis).

These courses are designed for both majors and non-majors, and provide majors an excellent opportunity to explore interests outside the core sequence. Students can expect at least two electives at this level to be offered most semesters. We coordinate with Bryn Mawr so that if a topic is not offered in a given year at Haverford, it may be offered at Bryn Mawr.

Advanced Electives:
• MATH 328 (Mathematical Statistics)
• MATH 335-336 (Topology)
• MATH/CMSC 340 (Analysis of Algorithms)
• MATH/CMSC 345 (Theory of Computation)
• MATH 390 (Advanced Topics in Algebra)
• MATH 391 (Advanced Topics in Geometry and Topology)
• MATH 392 (Advanced Topics in Analysis)
MATHEMATICS AND STATISTICS

**MINOR REQUIREMENTS**

Mathematics minors take the same core sequence as do the majors, though not necessarily to the same depth, followed by a selection of electives tailored to the student’s interest. Statistics minors take a separate core sequence in probability and statistics, with later flexibility in pursuing either a more applied or a more theoretical track.

**Mathematics Minor Requirements**
- MATH 215 (Linear Algebra) and either MATH 121 (Multivariable calculus) or MATH 216 (Advanced Calculus).
- MATH 317 (Analysis I) and MATH 333 (Algebra I).
- Two additional electives in mathematics at the 200 level or higher.

Minors may substitute equivalent courses in mathematics at Bryn Mawr College for any requirement, subject to adviser approval.

**Statistics Minor Requirements**
- One of the following courses (Introduction to Statistics): STAT 203, ECON 204, PSYC 200, SOCL 215
- STAT 286 (Applied Multivariate Statistical Analysis)
- MATH 218 (Probability)
- MATH 215 (Linear Algebra)
- MATH 121 or MATH 216 (Multivariable Calculus)
- One of the following:
  - STAT 328 (Mathematical Statistics)
  - STAT 396 (Advanced Topics in Probability and Statistics)
  - ECON 304 (Econometrics)
  - SOCL 320 (Advanced Quantitative Methods for Sociologists).

**Options for the Statistics Minor**
- A math minor can also be a statistics minor. If a student wants to be a math minor and a statistics minor, the following courses: STAT 203, ECON 204, MATH 218, STAT 286, STAT 328 and STAT 396, cannot be counted to satisfy both the math minor and statistics minor.
- A math major can also be a statistics minor. If a student wants to be a math major and a statistics minor, the following apply:
MATHEMATICS AND STATISTICS

- STAT 203, ECON 204 and STAT 286 cannot be counted to satisfy both the math major and statistics minor requirement.
- At most one of the following courses can be counted to satisfy both the math major and statistics minor requirement: MATH 218, STAT 328 and STAT 396.

- **Math majors with economics concentration**: If a math major wants to be an econ concentrator and a statistics minor, MATH 218, STAT 286, STAT 328 and STAT 396 cannot be counted toward both the economics concentration and the statistics minor.

- **Economics majors with math concentration**: If an economics major wants to be a math concentrator and also a statistics minor, the following apply:
  - MATH 218, STAT 286, STAT 328 and STAT 396 cannot be counted to satisfy both the stat minor and the math concentration requirement.
  - ECON 304 cannot be counted toward the statistics minor. (ECON 304 is required by the economics major.)

For further information about the statistics minor, please see the PDF supplement on the mathematics website, or contact the minor coordinator.

SENIOR PROJECT

A senior paper is written by each major in close coordination with a faculty member. The senior paper is a year-long research project that includes both written thesis and oral presentation. All seniors take a year-long senior seminar to support the senior paper. In the seminar, students learn how to use library resources, how to compose and present a poster for a poster session, and take turn presenting portions of their senior papers to each other to develop their skills in constructing and giving oral presentations.

In the fall of the senior year, the student begins to focus on a topic (sometimes an interesting theorem, other times building a mathematical model or analyzing a data set) and works through the material with the faculty advisor. The student completes a detailed thesis proposal, a poster presentation and a “mini-paper.” In the spring, the student develops a core fragment of the thesis, the first draft, the second draft, and the final draft of the thesis, and concludes by presenting the thesis to faculty and fellow students.

**Senior Project Learning Goals**

Our students will engage with advanced content and techniques in pure mathematics, applied mathematics and statistics. They will gain ownership of the process and material through understanding the content and the details of the problem they are investigating, constructing illustrative examples, carrying out novel computations or carefully analyzing a data set. Our students will write clear, careful and correct mathematics/statistics, from precise definition or description of a model to rigorous proofs or well-supported analyses. They will develop an oral presentation that highlights the central ideas of their thesis work at a level appropriate for an audience in the mathematical/statistical sciences.

**Senior Project Assessment**

The grade for the senior thesis is determined by the following:

- Level of engagement with advanced mathematics or statistics.
- Level of ownership of the material and of the writing process.
- Adherence to professional standards of written mathematics and statistics.

The grade for the senior seminar is determined by the following:

- Completing all the assignments in accordance with the assignment description.
- Meeting deadlines for each assignment.
- Whether easily discernible progress has been made from one assignment to another.
- Participating.
- Quality of the poster presentation.
- Quality of the thesis presentation.
- Quality of the final thesis.

CONCENTRATIONS AND INTERDISCIPLINARY MINORS

Mathematics majors can pursue four areas of concentration:

**Computer Science (more theoretical)**

It may come as a surprise to some that many of the fundamental questions in computer science (including the famous P versus NP problem) are in essence mathematical questions. Conversely, some of the deepest foundational questions about the nature of mathematics (such as: what constitutes a
Mathematics and Statistics are inherently computational in nature. Computers have also become a powerful tool in mathematical research and its applications, both theoretical and experimental. A full understanding of their capability and potential can only be realized by formal coursework in computer science. The concentration is open to math or physics majors.

Scientific Computing (more applied)
Many disciplines in the natural and social sciences include a significant sub-discipline that is explicitly computational. Examples include astronomy, biology, chemistry, economics, and physics. In some fields, such as biology, the use of computation has become so widespread that basic literacy in computation is increasingly important and may soon become required. The Concentration in Scientific Computing gives students an opportunity to develop a basic facility with the tools and concepts involved in applying computation to a scientific problem, and to explore the specific computational aspects of their own major disciplines.

Mathematical Economics (for majors interested in applying their skills to economic problems)
Mathematics and economics are complementary disciplines. Most branches of modern economics use mathematics and statistics extensively, and some important areas of mathematical research have been motivated by economic problems. Economists and mathematicians have made important contributions to each other’s disciplines. Economist Kenneth Arrow, for example, did path-breaking work in the field of mathematical optimization; and in 1994 mathematician John Nash was awarded the Nobel Prize in economics for introducing a theory of equilibrium in non-cooperative games that has become central to contemporary economic theory. Haverford’s Area of Concentration in Mathematical Economics enables students in each of the disciplines not only to gain proficiency in the other, but also to understand the ways in which they are related and complementary.

Mathematics Education (for majors interested in teaching mathematics)
The Bryn Mawr-Haverford Education Program invites students to study the discipline of education; explore the interdisciplinary field of educational studies; begin the path of teacher preparation for traditional classrooms; and participate in teaching experiences in a range of classroom and extra-classroom settings. Focused on teaching and learning as social, political, and cultural activities, the Education Program challenges students to explore the relationships among schooling, human development, and society as they gain knowledge and skills of educational theory and practice. Students who complete one of the Education Program options are prepared to become lifelong learners, educators, researchers, leaders and agents of change.

For the requirements for these concentrations, see those headings in this catalog or visit the departmental website.

Affiliated Programs
Many of our graduates have pursued successful and interesting careers in various engineering disciplines. Our 4+1 program with the University of Pennsylvania, 3/2 engineering program with CalTech, and the Master’s degree course exchange agreements with Swarthmore and the University of Pennsylvania offer robust—and unique—opportunities. For more information on these options, visit the Engineering website (haverford.edu/engineering/).

Faculty
Lynne Butler (on leave Spring 2017)
Professor

Curtis Greene
J. McLain King Professor of Mathematics

Heidi Goodson
Visiting Assistant Professor

David Lippel
Visiting Assistant Professor and Laboratory Instructor

Robert Manning (on leave 2016-2017)
William H. and Johanna A. Harris Professor of Computational Science

Elizabeth Townsend Milicevic
Assistant Professor

Weiwen Miao
Chair and Associate Professor

Haverford College Catalog 2016-2017
MATHEMATICS AND STATISTICS

Joshua Sabloff (On leave Fall 2016)
Professor

Eric Stachura
Visiting Assistant Professor

Jeff Tecosky-Feldman
Senior Lecturer

Nina Xu
Visiting Instructor

COURSES

MATHH103 INTRODUCTION TO PROBABILITY AND STATISTICS

Staff

Basic concepts and methods of elementary probability and quantitative reasoning, with practical applications. Topics include: sample average and standard deviation, normal curves, regression, expected value and standard error, confidence intervals and hypothesis tests.
Prerequisite(s): not open to students who have (a) placed into 121 or higher, (b) taken 118 or higher, (c) taken any other introductory statistics class at Haverford or Bryn Mawr. Natural Science (NA), Quantitative (QU)

MATHH105 APPLIED MODELING WITH CALCULUS

Jeff Tecosky-Feldman

An introduction to aspects of calculus useful in applied work in the natural and social sciences, with a strong emphasis on developing mathematical modeling skills. Topics include differential calculus of functions of one and several variables, differential equations. Applications to biology, economics, and physics. Not open to students placing into MATH 118 or higher or with previous calculus credit, except with instructor permission. Quantitative (QU)

MATHH118 CALCULUS: DYNAMICS AND INTEGRATION

Staff

A study of the evolution of systems defined by difference and differential equations. Methods of analysis come from calculus: the limit, the derivative, and the integral from numerical, graphical, and symbolic perspectives. Enrollment in one lab hour is required. Not open to students placing into MATH 121 or higher, except with instructor permission. Prerequisite(s): MATH 105 or placement. Not open to students with credit for MATH 102 (Calculus II) or equivalent, except with instructor permission; Quantitative (QU)

MATHH121 MULTIVARIABLE CALCULUS

Staff

An introduction to functions of several variables, vector geometry, partial derivatives, maxima & minima, Taylor's Theorem, multiple integrals, line integrals, and Green's and Stokes' Theorem. Enrollment in one lab hour is required. Prerequisite(s): MATH 114, 115, 118 or equivalent placement; Natural Science (NA)

MATHH199 FIRST YEAR SEMINAR: MATHEMATICS BEYOND CALCULUS

Staff

Half-credit course designed to introduce and convey the flavor of mathematics beyond the introductory core sequence in calculus and linear algebra. A selection of topics will be covered, varying from year to year. Prerequisite(s) or corequisite(s): MATH 215; Quantitative (QU)

MATHH203 STATISTICAL METHODS AND THEIR APPLICATIONS

Staff

An introduction to statistical methods used to analyze data in the natural and social sciences. It covers descriptive statistics, the binomial and normal distributions, expected value and variance, confidence intervals and hypothesis testing, comparison of two samples, regression, and analysis of variance. A required computer lab, using R, is taught alongside this course. Prerequisite(s): MATH 118 or higher, placement into MATH 121 or higher, or permission of instructor. Students who have taken another introductory statistics course at Haverford or Bryn Mawr may only enroll in STAT 203 with permission of instructor. Crosslisted: Statistics; Natural Science (NA)

MATHH204 DIFFERENTIAL EQUATIONS

Staff

Ordinary Differential Equations: Basic theory of ordinary differential equations (ODEs) including existence, uniqueness, and continuation of solutions. Systems of ODEs including linear systems, autonomous systems in the plane, phase portraits, stability, Lyapunov's method, invariant sets, the Poincare-Bendixson Theorem.
Prerequisite(s): MATH 121 and MATH 215; Natural Science (NA)
MATHEMATICS AND STATISTICS

MATH H205 TOPICS IN GEOMETRY
Jeff Tecosky-Feldman
An introduction to several areas in classical and modern geometry: analytic geometry, conic sections, Platonic solids and polyhedra, tessellations of the plane, projective, hyperbolic, and differential geometry. Students will see how symmetry groups serve as a unifying theme in geometry. This course will introduce students to the skill of writing formal mathematical proofs. Natural Science (NA)

MATH H210 LINEAR OPTIMIZATION AND GAME THEORY
Curtis Greene
Covers in depth the mathematics of optimization problems with a finite number of variables subject to constraints. Applications of linear programming to the theory of matrix games and network flows are covered, as well as an introduction to nonlinear programming and hidden Markov models. Emphasis is on the structure of optimal solutions, algorithms to find them, and the underlying theory that explains both. This course is designed for students interested in computer science, economics, or mathematics. Natural Science (NA)

MATH H215 LINEAR ALGEBRA
Staff
A fast-paced introduction to linear algebra, which spends less time on proof techniques to leave more time for applications. Lecture is supplemented with required weekly hour-long tutorials, including half-hour small-group meetings with the professor. Topics include: vector spaces, linear transformations, quadratic forms and the spectral theorem. Applications include: linear regression, Markov chains and principal component analysis. Prerequisite(s): MATH 121 or equivalent placement, or MATH 118 with consent; Natural Science (NA)

MATH H216 MULTIVARIABLE CALCULUS AND LINEAR ALGEBRA
Jeff Tecosky-Feldman
Calculus of several variables: continuous and differentiable functions on Euclidean spaces, extreme value problems, inverse and implicit function theorems, multiple integration, Green’s and Stokes’ Theorems. Not open to students who have previously taken multivariable calculus at the college level, either at Haverford or elsewhere, except with instructor permission. Prerequisite(s): MATH 215; Natural Science (NA)

MATH H218 PROBABILITY
Lynne Butler
An introduction to probability theory. Topics include: sample spaces, combinatorics, conditional probability, independence, discrete and continuous random variables, functions of random variables, expected value and variance, the moment generating function, and some basic limit theorems. Prerequisite(s): MATH 216 or 121 or consent; Quantitative (QU)

MATH H231 DISCRETE MATHEMATICS
Steven Lindell, Jane Chandlee
An introduction to discrete mathematics with strong applications to computer science. Topics include set theory, functions and relations, propositional logic, proof techniques, difference equations, graphs, and trees. Corequisite: CMSC 105, 107, or 110; Crosslisted: Computer Science; Natural Science (NA)

MATH H286 APPLIED MULTIVARIATE STATISTICAL ANALYSIS
Weiwen Miao
An introduction to multivariate statistical analysis. The course includes methods for choosing, fitting, and evaluating multiple regression models and analysis of variance models. A required computer lab, using R, is taught alongside this course. Prerequisite(s): MATH 215 and one of the following: ECON 204, MATH 203, PSYC 200, SOCL 215; Natural Science (NA)

MATH H317 ANALYSIS I
Robert Manning, David Lippel
A rigorous development of topics in calculus, including detailed treatment of the axioms of the real number line, cardinality, topology of normed spaces, compactness, and various notions of convergence. This course also serves as a thorough introduction to clear, correct writing of mathematical proofs. Prerequisite(s): MATH 215 and either 121 or 216 or consent; Natural Science (NA)

MATH H318 ANALYSIS II
Joshua Sabloff, Robert Manning
A continuation of MATH 317, focusing particularly on sequences and series of functions with applications (e.g., Fourier series, existence and uniqueness of solutions to differential equations). Other advanced topics (such as measure theory, the Lebesgue integral, calculus of variations, Fourier transforms, approximation theorems or fixed point

Haverford College Catalog 2016-2017
theorems) are included according to instructor and student interest. Natural Science (NA)

**MATHH328 MATHEMATICAL STATISTICS**  
*Weiwen Miao*  
An introduction to mathematical theory of statistics. Topics include: estimation, hypothesis testing, one-sample inference, two-sample inference, and regression. Additional topics may include: goodness-of-fit tests and analysis of variance. Prerequisite(s): MATH 218; Natural Science (NA)

**MATHH333 ALGEBRA I**  
*Elizabeth Townsend Milicevic*  
A rigorous treatment of fundamental algebraic structures. Topics include: axioms for integers, modular arithmetic, polynomials, rings, fields, and introduction to groups. This course also serves as a thorough introduction to clear, correct writing of mathematical proofs. Prerequisite(s): MATH 215 and either 121 or 216 or consent; Natural Science (NA)

**MATHH334 ALGEBRA II**  
*Elizabeth Townsend Milicevic*  
A continuation of Math 333a. Topics include: Sylow's theorems for groups, finite abelian groups, finite fields, Galois theory, modules, and advanced linear algebra. Natural Science (NA)

**MATHH335 TOPOLOGY**  
*Joshua Sabloff*  
Generalizes topological concepts from Euclidean spaces to arbitrary topological spaces, and introduces elements of algebraic topology. Concepts covered include continuity, connectedness, and compactness. The course culminates in an exploration of the fundamental group and covering spaces. Prerequisite(s): MATH 317 and 333, or instructor consent; Natural Science (NA)

**MATHH337 DIFFERENTIAL GEOMETRY**  
*Joshua Sabloff*  
A study of the differential geometry of curves and surfaces. Concepts covered include both the local theory (including metrics, curvature, and geodesics) and the global theory, culminating in the Gauss-Bonnet theorem. Prerequisite(s): MATH 317 or MATH 216 with special permission; Natural Science (NA)

**MATHH340 ANALYSIS OF ALGORITHMS**  
*Sorelle Friedler*  
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 searching will be studied in detail. Prerequisite(s): CMSC 106 and 231; Crosslisted: CMSC; Natural Science (NA)

**MATHH345 THEORY OF COMPUTATION**  
*Steven Lindell*  
Introduction to the mathematical foundations of computer science: finite state automata, formal languages and grammars, Turing machines, computability, unsolvability, and computational complexity. Attendance required. Prerequisite(s): (CMSC 106 or CMSC 107) and CMSC 231 or consent; Natural Science (NA)

**MATHH360 MATHEMATICAL ECONOMICS**  
*Staff*  
A study of advanced mathematical tools used in economic analysis. Topics include eigenvalues and quadratic forms, differential equations, convex programming and dynamic programming. Applications to consumer theory, generalized linear regression, stability of equilibrium, and models of growth and search. Fulfills Mathematic Economics (MTEC) concentration. Prerequisite(s): MATH 121 (or MATH 216) and MATH 215. ECON 300 as desirable; Crosslisted: ECON; Quantitative (QU)

**MATHH392 ADVANCED TOPICS IN ANALYSIS AND GEOMETRY: COMPLEX ANALYSIS**  
*Staff*  
An introduction to differentiation and integration of functions of a complex variable. Topics include the complex plane and elementary functions, complex differential calculus, integration and Cauchy's integral formula. Applications to physical science and number theory may be discussed. Prerequisite(s): MATH 317 or consent; Natural Science (NA)

**MATHH396 ADVANCED TOPICS IN PROBABILITY AND STATISTICS**  
*Weiwen Miao*  
Introduction to Markov Chains, with applications to probability, statistics, combinatorics, computer science, biology, and physics. Topics include card shuffling, random walks, simulation and sampling from large data sets, Markov Chain Monte Carlo
methods. Prerequisite(s): MATH 215 and either MATH 203 or MATH 218 or comparable background in probability, or consent of instructor; Crosslisted: Mathematics/Statistics; Natural Science (NA)

MATHH397 ADVANCED TOPICS IN APPLIED MATHEMATICS
Staff
This course will be an introduction to Partial Differential Equations (PDEs) in Mathematical Physics, with a focus on the wave equation, the Schrodinger equation, and the Maxwell Equations. Past topics include “Dynamical systems and chaos” (Spring 2009, taught by R. Manning), “Partial Differential Equations” (Spring 2011, taught by R. Manning). Prerequisite(s): MATH 317; Natural Science (NA)

MATHH399 SENIOR SEMINAR
Staff
Seminar for students writing senior papers, dealing with the oral and written exposition of advanced material. Natural Science (NA)

MATHH400 SENIOR RESEARCH
Staff
Natural Science (NA)
MIDDLE EASTERN AND ISLAMIC STUDIES
haverford.edu/meis

The Concentration in Middle Eastern and Islamic Studies gives students basic knowledge of the Middle East and broader Muslim world, and allows students to employ discipline-specific tools for advanced work in this area.

The faculty at Haverford College who research and study the Middle East and Islam are committed to educating students about the politics, histories, and socio-cultural formations of the Middle East and broader Muslim world. We believe that our students must have basic knowledge about the Middle East and Islam if they are to participate thoughtfully and constructively in the many contentious debates that frame public discourse about Muslims and the Middle East today.

LEARNING GOALS
Students in Middle Eastern and Islamic Studies will:
• learn the politics, histories, and socio-cultural formations of the Middle East and broader Muslim world.
• gain knowledge of key political, economic, and social issues in the contemporary Middle East.
• demonstrate competence in a language pertinent to the students’ areas of research.

CURRICULUM
An “Area of Concentration” at Haverford is designed to facilitate a student pursuing an area of study distinct from her major, but which he or she can use the disciplinary tools of the major to pursue. To that end, at least two courses, and no more than three, may fulfill both the student’s major requirements and the concentration requirements. In practical terms, this means that students who want to concentrate in Middle Eastern and Islamic Studies usually major in anthropology, comparative literature, history, political science, religion, sociology, or Spanish. Courses from their major must represent at least two but no more than three of the requirements detailed below. Proposals to concentrate on the basis of other majors must be approved in advance by concentration coordinator.

Language Competence
Students must demonstrate competence above the intermediate level in a language pertinent to their area of research:
• In cases where a student has selected Arabic as his or her relevant language, this means completion of ARAB 004.
• If a student is doing research for which another language is more appropriate, he or she may need to study at the University of Pennsylvania (Pashtu, Persian, Turkish and Swahili) or Bryn Mawr (Hebrew), or take other Haverford language classes (e.g., Chinese, French).

Some study abroad programs are also suitable for gaining language competence. Students should consult with the concentration coordinator about the course of language study to fill this requirement.

Core Courses
Students must take two of the core courses listed below, in which they learn about the Middle East
and Islam. Students must choose from two of the three departments listed (e.g., history and political science, history and religion, political science and religion). Students should consult the concentration coordinator to ensure they fill this requirement.

By completing this core requirement, students gain broad exposure to the history and politics of the Middle East, and to Islam as a major world religion and social and political force that began in, and continues to be affected by, the Middle East.

The core course options are:

- **History:**
  - HIST 117 (Modern Mediterranean History)
  - HIST 266 (Sex and Gender in the Early Modern Islamic World)
  - HIST 270 (From Empire to Nation: The Ottoman World Transformed)
- **Political Science:**
  - POLS 256 (The Evolution of Jihadi Movement)
  - POLS 357 (Conflict in the Middle East)
- **Religion:**
  - RELG 108 (Vocabularies of Islam)
  - RELG 218 (The Divine Guide: An Introduction to Shi‘ism)
  - RELG 248 (The Qur’an)

**Elective Courses**

Students should pursue areas of inquiry related to the Middle East and/or Islam and specific to their interests by taking four electives, at least one of which is at the 300 level. Examples might include anthropological approaches to the study of Islam or Middle East, the art of the Muslim world, Islam in African politics, medieval Persian history, Jihadi movements, the Iranian Revolution, modern Arabic literature, etc.

To fulfill their elective credit, students may select from a list of designated electives at Bryn Mawr and Swarthmore, or request approval from the concentration coordinator to take other appropriate courses at Bryn Mawr, Swarthmore, or the University of Pennsylvania’s Near Eastern Languages and Civilizations Program. Students may also petition the concentration coordinator and MEIS faculty for approval of a course that is not on the electives list but which the student feels provides important content for his or her specific research topic.

See the end of this section of the Catalog for a list of approved courses for the concentration. A current list is available from the concentration coordinator.

**Senior Thesis**

Students must write a thesis in their major department (anthropology, history, political science, religion or sociology) that addresses Middle Eastern and Islamic Studies and that the concentration coordinator (as well as the major adviser) approves. The concentration coordinator must approve this thesis topic in advance to count for the MEIS concentration. To request approval, students should submit a brief (one page) thesis proposal to the concentration coordinator and arrange a meeting to discuss the proposal.

**STUDY ABROAD**

Students may fulfill some of the required courses for the Concentration in Middle Eastern and Islamic Studies in study abroad programs. Some such programs that offer intensive language training can also count toward fulfilling the language requirement. Students are encouraged to consult with Dean Donna Mancini and the concentration coordinator about study abroad options.

**FACULTY**

**Barak Mendelsohn**
Concentration Coordinator and Associate Professor of Political Science

**Kameliya Atanasova**
Visiting Assistant Professor of Religion

**Mark Gould**
Professor of Sociology

**Alexander Kitroeff**
Associate Professor of History

**Naomi Koltun-Fromm**
Professor of Religion

**Zainab Saleh**
Assistant Professor of Anthropology

**Susanna Wing**
Associate Professor of Political Science

Haverford College Catalog 2016-2017
COURSES
The following courses at Haverford fulfill the MEIS elective requirement. Courses marked with asterisks will be taught in the 2016-2017 academic year.

Anthropology:
• ANTH 241 (Anthropology of the Mediterranean)
• ANTH 259 (Ethnographies of Islam)
• ANTH 361 (Advanced Topics in Ethnographic Area Studies: Middle Eastern Nationalisms)

History:
• HIST 117 (Modern Mediterranean History)*
• HIST 266 (Sex and Gender in the Early Modern Islamic World)
• HIST 270 (From Empire to Nation: The Ottoman World Transformed)

Peace, Justice, and Human Rights:
• PEAC 304 (Cosmopolitanism and Toleration in Enlightenment Europe)

Political Science
• POLS 151 (International Politics)*
• POLS 253 (Introduction to Terrorism Studies)*
• POLS 256 (The Evolution of the Jihadi Movement)
• POLS 313 (Armed Nonstate Actors in International Politics)*
• POLS 333 (International Security)
• POLS 345 (Islam, Democracy and Development)
• POLS 357 (Conflict in the Middle East)*
• POLS 358 (The War on Terrorism)

Religion:
• RELG 108 (Vocabularies of Islam)*
• RELG 118 (Hebrew Bible: Literary Text and Historical Context)
• RELG 203 (The Hebrew Bible and Its Interpretations)
• RELG 212 (Jerusalem: City, History and Representation)
• RELG 218 (The Divine Guide: An Introduction of Shi‘ism)
• RELG 248 (The Qur’an)
• RELG 258 (Gender and Power in Modern Jewish and Christian Thought)
• RELG 306 (Of Monsters and Marvels: Wonder in Islamic Traditions)

• RELG 307 (Imaging Islam: Icon, Object, and Image)
• RELG 308 (Mystical Literatures of Islam)
• RELG 361 (Hindus and Muslims in South Asia)

Sociology:
• SOCL 207 (Internal Disorder: Deviance and Revolution)
• SOCL 233 (Topics in Sociology: Islamic Modernism)
• SOCL 237 (Topics in Historical Sociology)
• SOCL 298 (Law and Sociology)

Spanish/Comparative Literature:
• SPAN 266 (Iberian Orientalism and the Nation)
• SPAN 340 (The Moor in Spanish Literature)

COURSES AT BRYN MAWR COLLEGE
(FALL)

ARCH 104 AGRICULTURE & URBAN REVOLUTION
Peter McGee

HIST 234 INTRODUCTION: MIDDLE EAST
Assef Ashraf

POL 283 MODERN MIDDLE EAST AND NORTH AFRICA
Sofia Fenner

POL 360 ISLAM AND POLITICS
Sofia Fenner

Haverford College Catalog 2016-2017
The music curriculum is designed to deepen students' understanding of musical form and expression through the development of skill in composition and performance joined with analysis of musical works and their place in various cultures. A major in music provides a foundation for further study leading to a career in music. As a result of having majored in our department, students exhibit proficiency in various skills appropriate to a specific area of the curriculum as listed below. But beyond such competence, we seek to develop their awareness of aesthetics and of their place in the history of musical performance, craft, and scholarship.

**LEARNING GOALS**
Music Department faculty members are committed to the education of the whole musician. This entails the study of performance, theory, and history, as we believe these disciplines support each other in a comprehensive understanding of music. Depending on the level of the individual course, we aim for students to:

- gain command of chosen instrument or voice, showing understanding of technical skills of musicianship.
- understand how to apply appropriate interpretive choices to a given musical work.
- analyze important aspects of musical style and structure, both in score and aurally.
- demonstrate ability to deploy elements of melody, harmony, and structure in original creations.
- develop rhetorical skills to speak and write about music with conviction, and the bibliographical skills required to find works and critical perspectives that inform these judgements.

**CURRICULUM**

**Composition/Theory**
The composition/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.

**Musicology**
The musicology program, which emphasizes European, North American, and Asian traditions, considers music in the rich context of its social, religious, and aesthetic surroundings.

**Performance**
Haverford’s music performance program offers opportunities to participate in the Haverford-Bryn Mawr Chamber Singers, Chorale, Orchestra, and chamber ensembles. Students can receive academic credit for their participation (MUSC 102, 214, 215, and 216), and can receive credit for Private Study (MUSC 208 for Instrumental Study, MUSC 209 for Voice Study, and MUSC 210 for Keyboard Study). Student chamber ensembles, solo instrumentalists, and vocalists also give informal recitals during the year. Courses such as Art Song and Topics in Piano have a built-in performance component.

**Private Lessons**
Students can arrange private music lessons through the department or independently. We have a referral list of many fine teachers in the Philadelphia area with whom we are affiliated. The department helps to subsidize the cost of lessons for students with financial need who are studying for academic credit.

**MAJOR REQUIREMENTS**

- Composition/Theory: MUSC 203, 204, and 303.
- Musicology: Three courses, MUSC 229, plus any two of MUSC 220, 221, 222, 223, 224, or 225.
- Performance
  - Participation in a department-sponsored performance group for at least a year.
  - MUSC 208, 209, or 210 instrumental or vocal private study for one year.
  - We strongly urge continuing ensemble participation and instrumental or vocal private study.
- A Senior Project (as detailed below)
- We expect majors to attend the majority of department-sponsored concerts, lectures, and colloquia.

**MINOR REQUIREMENTS**

- Composition/Theory: MUSC 203 and 204.
- Musicology: MUSC 229; plus any one of 220, 221, 222, 223, 224, or 225.
• One elective from the following: MUSC 149, 207, 220, 221, 222, 223, 224, 225, 227, 250, 254, 265, 266, 270, 303, 304, and 325.
• MUSC 208, 209, 210 instrumental/vocal private study or department ensemble participation for one year.
• We expect minors to attend the majority of department-sponsored concerts, lectures, and colloquia.

SENIOR PROJECT
Senior majors in the Department of Music may choose to undertake their capstone experience by pursuing one of the following focused project options: an original composition or theoretical inquiry; a musicology research paper; a full recital performance; a personalized plan of study within an elective course beyond the number required. In some cases, projects might combine two fields—performance and theory, for example—and may involve joint advisement. All projects culminate in public presentation appropriate to their nature and scope.

Majors are asked in February of their junior year to discuss with department faculty members their ideas for the senior experience, identify an adviser, and submit a formal, written project proposal to the Chair before spring break. Proposals are then reviewed by the Music faculty in department meetings. Frequently the department asks that proposals be modified and submitted for a second review before final approval is given. Notification of departmental approval is sent by the chair to students in April. As soon as the project is approved, students are expected to consult with the adviser to determine a clear schedule for the timely completion of work according to the unique needs of the project. Students are often encouraged to get a head start on senior project work well before the beginning of their final fall semester.

Majors pursuing an independent project in composition/theory, musicology or performance generally register for MUSC 480 in both the fall and spring semesters of their senior year. Each semester of 480 earns one course credit; however, only one semester of 480 counts toward the courses required for the major. Majors pursuing the expanded curricular option may be advised to take a preparatory fall 480, which likewise would earn one course credit, but not apply toward fulfillment of major requirements.

Senior Project Learning Goals
• In the process of preparing an original composition, the student exercises the ability to compose a substantial work (e.g., string quartet, song cycle, piano sonata) exhibiting proficiency in notation, clarity of structure, stylistic integrity, and awareness of historical models. In pursuing a theoretical inquiry, the student engages in the analysis of musical content through primary and secondary sources, aiming for a synthesis of perspectives and an expression of insights sensitive to music’s interpretive possibilities.
• In the process of preparing a senior thesis in musicology, the student develops the ability to craft an original research question based on knowledge of and reflection upon prior literature in the field. The student will also demonstrate command of appropriate musicological research methods, clear written expression, and the capacity to speak with authority about the topic in a public presentation.
• In the process of preparing a senior recital, the student hones the skills to present a technically and interpretively challenging program of repertoire from a range of stylistic periods.
• In the process of fulfilling a program of intensified study within an additional course elective, the student expands curricular horizons, and meets the highest-level challenges in her/his experience as a major.

Regardless of the specific path taken, it is intended that the senior experience stimulate reflection on the discipline of music as a whole, and lead to the student's awareness of place within the unfolding history of musical creativity, scholarship and performance. Each project should in its own way constitute a consummation of the student's musical growth throughout the undergraduate years.

Senior Project Assessment
Whether undertaken in the context of an intensified elective or of an independent study the actual numerical grade assigned for the senior project remains at adviser discretion. The department as a body discusses the project’s relative quality and the consistency of effort brought to bear in its production, to aid the adviser in evaluation. A written summary of the department’s collective appraisal of the student’s achievement in the senior experience is furnished by the chair to the student prior to Commencement.
REQUIREMENTS FOR HONORS

Honors
• Minimum GPA in music courses of 3.7 AND grade on senior project of 4.0.

High Honors
• Outstanding, standard-setting contribution to the department in the context of courses and/or ensembles.
• Exceptional level of originality, depth, and synthesis in the senior project as compared to undergraduate work generally, outside Haverford (i.e., a level of work that should be sufficient to gain admission to top graduate programs in the field).

SPECIAL PROGRAMS AND FUNDS
The Music Department Concert Artist Series presents distinguished and emerging performers in public concerts, master classes, lecture-demonstrations, reading sessions, and informal encounters. Among artists recently featured have been pianist Peter Serkin, violinist Miranda Cuckson, the Orlando Consort, the Borromeo String Quartet, the Renee Rosnes Jazz Quartet, and the Borealis Wind Quintet with pianist Leon Bates.

The Network for New Music Residency features Philadelphia's distinguished contemporary music ensemble in reading and recording sessions for student composers, performances of contemporary music with students in the Chamber Music program, and a concert series highlighting the work of prominent living composers.

The William Heartt Reese Music Fund was established in 1977 to honor William Heartt Reese, Professor of Music and conductor of the Glee Club and Orchestra at Haverford from 1947 to 1975. The fund supports applied music lessons for students enrolled in the department's private study program.

The John H. Davison ’51 Fund for Student Composers supports the performance of new works by student composers. This fund recognizes John's 40 years of teaching and musical creativity at Haverford.

The Orpheus Prize is awarded for exceptional achievement in the practice of tonal harmony.

The Kessinger Family Fund for Asian Performing Arts sponsors musical performances and lecture-demonstrations that enrich Haverford's cross-cultural programs. Since its inception in 1997, the fund has supported visits by artists representing traditions of South, Central, and East Asia, and Indonesia.

FACILITIES
See the departmental web page for a description of performance, rehearsal, library spaces, instruments and equipment.

FACULTY
Ingrid Arauco (on leave Spring 2016)
Department Chair and Professor of Music

Curtis Cacioppo
Ruth Marshall Magill Professor of Music and Director of Keyboard Studies

Richard Freedman
John C. Whitehead Professor of Music

Heidi Jacob
Associate Professor of Music and Director of Orchestral and Instrumental Studies

Thomas Lloyd
Professor of Music and Director of Choral and Vocal Studies

Christine Cacioppo
Visiting Instructor in Music

Leonardo Dugan
Visiting Assistant Professor of Music

Myron Gray
Visiting Assistant Professor of Music

COURSES
MUSCH102 CHORALE
Thomas Lloyd
Chorale is a large mixed chorus that performs major works from the oratorio repertoire with orchestra and student soloists. Attendance at weekly two-hour rehearsals and dress rehearsals during performance week is required. Entrance by audition. Students can start Chorale at the beginning of any semester. Prerequisite(s): audition and consent of the instructor; Humanities (HU)

MUSCH107 INTRODUCTORY PIANO
Christine Cacioppo
An introduction to the art of playing the piano and the music written for it. No prior musical experience is required. This course consists of weekly hour-long sessions in the form of either a class lecture/workshop given on Tuesday evenings, or self-directed listening sessions posted on Moodle, as well as weekly 20-minute private lessons at an arranged time. It is expected that the student will practice an hour each day, six days a week, and keep a listening journal, giving personal responses to the required listening as well as to three professional concerts. The final exam is a performance of two or more short works on the class recital at the end of the term. This is a lottery course, limited to 16 students, with 5 spaces reserved for majors/minors. Humanities (HU)

MUSCH110 INTRODUCTION TO MUSIC THEORY
Leonardo Dugan, Ingrid Arauco
An intensive introduction to the notational and theoretical materials of music, complemented by work in sight-singing, keyboard harmony, and dictation. This course is appropriate for students who sing or play an instrument, but who have had little or no systematic instruction in music theory. Topics include time and pitch and their notation, scales, intervals, triads, basic harmonic progressions, melodic construction, harmonization of melody, non-harmonic tones, transposition, and key change (modulation). Students who wish to explore the art of musical composition will find this course especially useful, as two creative projects are assigned: the composition of a pair of melodies in the major and minor modes, and a 32-bar piece which changes key. Preparation for these projects is provided through listening and analysis of works in a variety of musical styles. Students having completed this course will be prepared to enter Music 203, the first semester of the theory sequence for music majors. Humanities (HU)

MUSCH111 INTRODUCTION TO WESTERN MUSIC
Richard Freedman
A survey of the European musical tradition from the Middle Ages to modern times. Students will hear music by Monteverdi, Bach, Mozart, Beethoven, Wagner, Stravinsky, and Glass, among many others, developing both listening skills and an awareness of how music relates to the culture that fosters it. In addition to listening and reading, students will attend concerts and prepare written assignments. Humanities (HU)

MUSCH132 WRITING ABOUT BEETHOVEN
Richard Freedman
Humanities (HU)

MUSCH203 PRINCIPLES OF TONAL HARMONY I
Leonardo Dugan, Ingrid Arauco
The harmonic vocabulary and compositional techniques of Bach, Haydn, Mozart, Beethoven, Schubert, and others. Analysis of musical literature in a variety of genres and harmonization in four parts. Composition of minuet and trio, set of variations, or other homophonic piece is the final project. Requires three class hours plus laboratory period covering related aural and keyboard harmony skills. Required for the Music major and minor; should be taken no later than fall of sophomore year. Prerequisite(s): Music 110 or consent of instructor; Humanities (HU)

MUSCH204 PRINCIPLES OF TONAL HARMONY II
Curtis Cacioppo
Continuation of Music 203, covering chromatic harmony and focusing on the development of sonata forms from the Classical through the Romantic period. Composition of a sonata exposition is the final project. Three class hours plus laboratory period covering related aural and keyboard harmony skills. Required for the Music major or minor. Prerequisite(s): Music 203; Humanities (HU)

MUSCH207 TOPICS IN PIANO
Curtis Cacioppo
Combines private lessons and studio/master classes, musical analysis, research questions into performance practice and historical context, and critical examination of sound recorded sources. Requires preparation of works of selected composer or style period for end-of-semester recital. Recent topics have included The Italian Keyboard Tradition, J.S. Bach and his Trans-Generational Impact, and American Roots. Humanities (HU)

MUSCH208 PRIVATE STUDY: INSTRUMENTAL
Heidi Jacob
All students enrolled in the private study program should be participating in a departmentally directed ensemble or activity (Chorale, Orchestra, etc.) as advised by their program supervisor. Students receive ten hour-long lessons with approved teachers for one-half credit, graded. All students in the private study program perform for a faculty jury at the end of the semester. Students
assume the cost of their lessons, but may apply for private study subsidies at the beginning of each semester's study through the department. Humanities (HU)

MUSCH209 PRIVATE STUDY: VOICE
Thomas Lloyd
All students enrolled in the private study program should be participating in a departmentally directed ensemble or activity (Chorale, Orchestra, etc.) as advised by their program supervisor. Students receive ten hour-long lessons with approved teachers for one-half credit, graded. All students in the private study program perform for a faculty jury at the end of the semester. Students assume the cost of their lessons, but may apply for private study subsidies at the beginning of each semester's study through the department. Humanities (HU)

MUSCH210 PRIVATE STUDY: KEYBOARD
Christine Cacioppo
All students enrolled in the private study program should be participating in a departmentally directed ensemble or activity (Chorale, Orchestra, etc.) as advised by their program supervisor. Students receive ten hour-long lessons with approved teachers for one-half credit, graded. All students in the private study program perform for a faculty jury at the end of the semester. Students assume the cost of their lessons, but may apply for private study subsidies at the beginning of each semester's study through the department. Humanities (HU)

MUSCH214 CHAMBER SINGERS
Thomas Lloyd
A 30-voice mixed choir that performs a wide range of mostly a cappella repertoire from the Renaissance to the present day, in original languages. The choir performs on and off campus, both public concerts and outreach concerts to underserved audiences. International tours revolving around shared concerts with choirs in the cities visited happen every 3-4 years. Requires attendance at three 80-minute rehearsals weekly. Entrance by audition at the beginning of the Fall semester each year. Humanities (HU)

MUSCH215 CHAMBER MUSIC
Heidi Jacob
Intensive rehearsal of works for small instrumental groups, with supplemental assigned research and listening. Performance is required. Students enrolled in Chamber Music have the opportunity to receive coaching from visiting artists on the Concert Artist Series and from resident ensembles. Performances take place at Haverford and Bryn Mawr Colleges, and other community venues. This course is available to those students who are concurrently studying privately, or who have studied privately immediately prior to the start of the semester. In addition, all students playing orchestral instruments must participate concurrently in the Orchestra, unless granted permission by the music director. Entrance by audition only. Humanities (HU)

MUSCH216 ORCHESTRA
Heidi Jacob
The Haverford-Bryn Mawr Orchestra has over seventy members and performs a wide range of symphonic repertory. Orchestra members are expected to attend one two-and-a-half hour rehearsal per week, and are guided in sectional rehearsals by professional musicians. There are three/four performances a year, including Parents/Family Weekend concerts. The spring Orchestra concert features the winner of the annual student concerto competition. Entrance by audition only. Humanities (HU)

MUSCH219 ART SONG
Thomas Lloyd
A performance course devoted to the French, German, English, and American art song literature from Schubert to the present. Weekly performance classes will be accompanied by weekly individual coaching with the instructor, culminating in a public recital at the end of the semester. Prerequisite(s): audition and consent of instructor; Humanities (HU)

MUSCH221 MUSIC, RITUAL, AND REPRESENTATION, 1400-1600
Richard Freedman
This course explores the remarkable emergence of new ways of representing poetic and dramatic texts in musical form, charting the cultural forces of Renaissance, Reformation, and printing in the 15th and 16th centuries. We will explore changes in musical style, and the changing role that music played in European culture. We'll hear music by composers like Dufay, Josquin, Palestrina, Lasso, and Marenzio, among many others. Three class hours plus listening laboratory period. Prerequisite(s): any full-credit course in Music, or equivalent prior experience in musical study. Humanities (HU)
MUSCH222 COMPOSERS, PLAYERS, AND LISTENERS IN THE 17TH AND 18TH CENTURIES
Myron Gray
Study of music and musical life in Europe between about 1600 and 1750. The course traces sharp changes in musical style and the equally striking changes in roles for soloists, composers, and audiences in an international context of patronage and publishing. Composers studied range from Monteverdi to Bach and Handel. Three class hours plus listening laboratory period. Prerequisite(s): Music 110, 111, or a working knowledge of musical notation and related concepts; Humanities (HU)

MUSCH223 MOZART'S WORLD
Myron Gray
This course takes students on a musical tour of Europe in the eighteenth century. Traveling from Naples to Paris, London, and Vienna, we consider how politics, religion, commerce, and technology shaped local musical cultures. At the same time, we explore the formation of a pan-European musical language, the galant style, in works by composers like Gluck, Haydn, Mozart, and early Beethoven. Prerequisite(s): Music 110, 111, or consent of the instructor; Humanities (HU)

MUSCH224 19TH CENTURY ROMANTIC MUSIC
Myron Gray
This course examines the songs, operas, piano music and symphonic works of Berlioz, Liszt, Schubert, the Schumanns, Loewe, Wagner, Verdi, Dvorak, Mahler, and Brahms. We will learn about changing styles and forms, and we will put music in the contexts of literary Romanticism, nationalism, and changing social world of musicians and the musical institutions. Prerequisite(s): any full credit course in Music, or consent of the instructor; Humanities (HU)

MUSCH229 THINKING ABOUT MUSIC: IDEAS, HISTORY, AND MUSICOLOGY
Richard Freedman, Myron Gray
Core concepts and perspectives for the serious study of music. Students explore music, meaning, and musicological method in a variety of contexts through a set of six foundational themes and questions: Music and the Idea of Genius, Who Owns Music?, Music and Technology, The Global Soundscape, Music and the State, and Tonality, Sense, and Reason. Each unit uses a small number of musical works, performances, or documents as a focal point. In each unit we also read current musicological work in an attempt to understand the methods, arguments, and perspectives through which scholars interpret music and its many meanings. This course is required of all music majors and minors in their sophomore or junior year. Prerequisite(s): Music 110, 111, or 203; Humanities (HU)

MUSCH265 SYMPHONIC TECHNIQUE AND TRADITION
Curtis Cacioppo, Ingrid Arauco
In this course, we will be familiarizing ourselves with significant orchestral repertory of the past three centuries, learning to read the orchestral score, studying the capabilities of various orchestral instruments and how they are used together, and tracing the evolution of orchestral writing and orchestral forms from the Classical period to the present. Weekly exercises in scoring for orchestra. Attendance at rehearsals and/or performances of the Philadelphia Orchestra. Prerequisite(s): Music 204; Humanities (HU)

MUSCH266 COMPOSITION
Ingrid Arauco
Preparation of a portfolio of compositions for various instruments and ensembles. Weekly assignments designed to invite creative, individual responses to a variety of musical ideas; experimentation with harmony, form, notation, and text-setting. Performance of student works-in-progress and final reading/recording session with professional musicians. Recent classes have had their compositions read by Network for New Music, percussionist Phillip O’Banion, and the Amernet String Quartet. Prerequisite(s): Music 204 and consent of the instructor; Humanities (HU)

MUSCH270 POPULAR MUSIC IN AMERICA
Myron Gray
Introductory history of American popular music, c. 1790–1980. Covers early musical theater, minstrelsy, the blues, rock, film music, and minimalism, exploring themes of cultural hierarchy, technology, race, and transnationalism. Prerequisite(s): First year seminar or consent of instructor; Humanities (HU)

MUSCH303 ADVANCED TONAL HARMONY
Ingrid Arauco, Curtis Cacioppo
Study of late 19th-century harmonic practice in selected works of Liszt, Wagner, Brahms, Fauré, Wolf, Debussy, and Mahler. Exploration of chromatic harmony through analysis and short compositions; final composition project consisting of either art song or piano piece such as nocturne or
MUSIC

intermezzo. Musicianship lab covers related aural and keyboard harmony skills. Prerequisite(s): Music 204; Humanities (HU)

MUSCH304 COUNTERPOINT
Ingrid Arauco
18th-century contrapuntal techniques and forms with emphasis on the works of J.S. Bach. Composition of two-part contrapuntal dances and inventions, canon, chorale prelude, fugue in three voices. Attention is also paid to counterpoint in later style periods, especially the twentieth century. Three class hours plus laboratory period covering related aural and keyboard harmony skills. Prerequisite(s): Music 204; Humanities (HU)

MUSCH325 SEMINAR IN 20TH/21ST CENTURY MUSIC
Curtis Cacioppo
Study of composers, works, and trends since 1900, with reference to theoretical and aesthetic writings and their relation to world events. Recent topics have included European émigré influence on American music, and Make It New: Music by Philadelphia Composers. Prerequisite(s): Music 204; Humanities (HU)
The desire to understand human and animal behavior in terms of nervous system structure and function is longstanding. Historically, researchers and scholars have approached this task from a variety of disciplines, including medicine, biology, psychology, philosophy, and physiology. The field of neuroscience emerged as an interdisciplinary approach, combining techniques and perspectives from these disciplines, as well as emerging fields such as computation and cognitive science, to yield new insights into the workings of the nervous system and behavior.

The minor in Neuroscience allows students with any major to pursue interests in behavior and the nervous system across disciplines. Students should consult with the faculty coordinator or any member of the advisory committee in order to declare the minor.

LEARNING GOALS
The goals of the minor include enabling students to gain:

- a basic understanding of the organization of the nervous system and its relation to categories of behavior such as motor control, sensation and perception, motivational states, and higher cognition.
- an appreciation of and fluency with the many levels at which the nervous system can be studied, including molecular, cellular, systems, behavioral and cognitive neuroscience levels.
- an appreciation of the interdisciplinary nature of neuroscience and the allied disciplines that inform the study of mind, brain, and behavior.
- an ability to closely examine and critically evaluate primary research on specialized, advanced neuroscience topics.

MINOR REQUIREMENTS
- HC PSYC 217 (Behavioral Neuroscience) or BMC PSYC 218 (Behavioral Neuroscience) or BMC BIOL 202 (Introduction to Neuroscience).
- Five credits from the list of approved courses (see the Neuroscience website), with these constraints:
  - The five credits must sample from three different disciplines.
  - At least three of the five credits must come from primary neuroscience courses (List A).
  - At least one of the credits must be at the 300-level or higher.
  - One of the five credits may come from supervised senior research in neuroscience.
  - No more than two of the six minor credits may count towards the student’s major.

A current list of approved courses, divided into List A: Primary Neuroscience and List B: Allied Disciplines, is linked from the Neuroscience Minor website.

FACULTY
At Haverford:
Laura Been
Assistant Professor of Psychology
Neuroscience Minor Coordinator
Rebecca Compton
Professor of Psychology
Roshan Jain
Assistant Professor of Biology
Mary Ellen Kelly
Visiting Assistant Professor of Psychology

At Bryn Mawr College:
Peter D. Brodfuehrer
Professor of Biology
Karen F. Greif
Professor of Biology
Anjali Thapar
Professor of Psychology
Earl Thomas
Professor of Psychology

COURSES
A current list of approved courses, divided into List A: Primary Neuroscience courses and List B: Allied Disciplines, is linked from the Neuroscience Minor website.
The Interdisciplinary Concentration in Peace, Justice and Human Rights offers students the opportunity to study the history, philosophy and critiques of the rights tradition, examine themes of human rights and justice in their local and international contexts, and apply philosophical, social scientific and ethical reasoning to real-world problems.

The concentration is open to students in any major who wish to focus on topics such as:

- human rights and critical rights discourse (universalism, localism, relativism, formal equality, group and special rights categories, individual and state responsibility, critiques of the rights tradition).
- recovery from conflict and mass violence (reconciliation, restorative justice, reparations, truth commissions, cultural renewal, legal mechanisms).
- war, conflict, peace-keeping and peace-making (weapons, conflict resolution, just war, sustainable peace).
- globalization and global governance (sovereignty, trade and capital, global justice, international economic institutions, technology, the media, immigration).
- politics of life (medicine/health, environment).
- space and the built environment (links between rights, social justice and the building of urban spaces, policing urban areas, urban poor).
- technology and politics (technology and media, weaponry).

The above fields are not intended as tracks or limitations. The list of topics will be as long as the creativity of students and faculty will allow.

**LEARNING GOALS**

Students who complete the Interdisciplinary Concentration in Peace, Justice and Human Rights will possess:

- knowledge of the various schools of thought and modes of practice of peace, justice and human rights.
- familiarity with diverse approaches to conflict and peace.
- fluency with various schools of ethical and legal thought.
- understanding of the complexity of international and domestic issues of peace, justice and human rights.
- confidence in the ability to understand and analyze philosophical and practical problems, and come up with creative solutions to these problems.
- good oral and written communication skills, gained through discussion of ideas, the practice of writing, and the practices of speaking and teaching, commenting on the work of peers, and revision of work over time.
- a working sense of the ways in which theory and practice are different but inseparable.
- ability to formulate and advance original arguments about issues of peace, justice and human rights.
- sensitivity to the different factors affecting reception of arguments about divisive or emergent issues.
- experience with field methods, archival research, practical internships or other work or study outside of the traditional classroom setting.
- insight into what interdisciplinary study entails and how it complements or augments work within the disciplines, including a sense of the differing methodological approaches: historical/archival, philosophical, legal, ethnographic, institutional, textual.
- aptitude for communicating and collaborating with peers—and audiences in the wider world—whose disciplinary language, values and methodological concerns differ.
- humility with regard to the complexity of conflict and its resolution.

**CONCENTRATION REQUIREMENTS**

The concentration combines three core courses with three elective courses focused on a particular theoretical problem, geographical region, or comparative study. Ideally, students meet with the director in the spring of their sophomore year to work out a plan for the concentration.

**Core Courses**

We require all concentrators to take three core courses:

- PEAC 101 (Introduction to PJHR)
- PEAC 201 (Applied Ethics of PJHR)
PEACE, JUSTICE, AND HUMAN RIGHTS

• PEAC 395 (Capstone Seminar in PJHR)
  Alternate courses may on occasion fulfill a core requirement.

Electives
We require students to take three additional elective courses for the concentration. There is no set list of courses, which “count” as electives; instead, we ask students to design a thoughtful focus for their work, and choose courses in consultation with the concentration director, working out a plan that focuses the concentration regionally, conceptually, or around a particular substantive problem. A course does not have to have “peace” or “justice” in its title or content to count toward the concentration. The aim is to articulate a focus that helps each student pursue her or his interests in PJHR.

The concentration may overlap with students’ majors by one or two courses—any course could potentially count toward two programs. (For instance, for political science majors with a concentration in PJHR and a focus on questions of sovereignty, POLS 266 could fill requirements in both political science and PJHR.) Such overlap is a possibility, not a requirement. Each student works out a plan of study appropriate to his or her focus with the concentration director.

INTERNSHIP OR RESEARCH EXPERIENCE
The program encourages students to take advantage of the many opportunities for enriching their academic work through independent research and/or internships, in both domestic and international settings. This will help students face the challenges of integrating data and theory into original analyses. Possibilities include traditional social science fieldwork, archival research in the humanities, guided research in the sciences, advanced work in applied ethics backed by research, and so on. Haverford students may seek support through Haverford’s Center for Peace and Global Citizenship (CPGC), from the John B. Huford ’60 Center for the Arts and Humanities, or the Koshland Integrated Natural Sciences Center (KINSC).

Examples of recent CPGC-funded projects include: an internship with the Women’s International League for Peace and Freedom; a humanitarian relief project in Panabaj, Guatemala following civil war and a devastating mudslide; research into the struggles of Philadelphia refugees from conflict zones; a summer internship at a school for street children in Indonesia; internships at Voice of Witness in San Francisco; and participation in the World Social Forum in Venezuela.

CONCENTRATION COORDINATORS
Jill Stauffer
Assistant Professor, Director of the Interdisciplinary Concentration in Peace, Justice, and Human Rights, and Affiliated Faculty Member of the Philosophy Department

Adam Rosenblatt
Visiting Assistant Professor

COURSES
PEACH101 INTRO TO PEACE, JUSTICE AND HUMAN RIGHTS
Adam Rosenblatt, Jill Stauffer
Introduction to the study of peace, justice and human rights, surveying philosophies of rights and justice; approaches to (and reasons for) peace, war, and nonviolence; clashes between human rights and conflict resolution; why study of human rights is necessarily interdisciplinary. Social Science (SO)

PEACH119 CULTURE AND CRISIS IN THE GOLDEN AGE OF ATHENS
Bret Mulligan
Introduction to classical culture through a study of the Athenian achievement in literature, politics and philosophy from the Persian Wars to the trial and death of Socrates, largely through primary sources. The last third of the semester will feature an open-ended, student-led simulation of the aftermath of the Peloponnesian Wars, in which students will debate social reconciliation after the expulsion of the tyrants, the organization of Athenian government, the expansion of citizenship, the future of the Athenian empire, and the fate of Socrates. Crosslisted: CSTS; Humanities (HU)

PEACH201 APPLIED ETHICS OF PEACE, JUSTICE AND HUMAN RIGHTS
Samantha Noll, Jill Stauffer
This course surveys major legal and ethical theories with a view to helping students understand arguments about peace, justice and human rights and formulate their own creative approaches to
ethic problems. Theories will be applied to concrete problems of justice. Humanities (HU)

PEACH203 CHILDREN’S RIGHTS/CHILDREN’S LIBERATION
Adam Rosenblatt
This course examines from anthropological and literary perspectives the situation of children in our society: rights they enjoy, how they came to possess them, forms of exclusion and subjection they experience, and the origins and underpinnings of both of these things. Humanities (HU)

PEACH204 PICTURING WAR: GOYA TO PRESENT
Staff
An examination of aesthetic, social, political, psychological, and historical aspects of the visual representation of war. Media ranging from prints and photographs to sculpture and film from the beginning of the nineteenth century to the present day. Humanities (HU)

PEACH206 MICROFINANCE: THEORY, PRACTICE AND CHALLENGES
Shannon Mudd
An exploration of microfinance as an alternative approach to meeting the financial needs of the poor and, ideally, to assist in their current and future well-being. The course will provide theoretical explanations for its methodology, evaluate empirical research into its impacts and debate important issues in its practice. Social Science (SO)

PEACH207 CRUISING HOME: QUEER KINSHIP IN THEORY AND PRACTICE
Jaclyn Pryor
In this course, we will explore historical and contemporary questions of kinship as they intersect with lesbian, gay, bisexual, transgender, two-spirit, and queer practices of building home, community, and social movements. Considering kinship as both site of violence and liberation, our texts will include political theory; literary texts—including novels, plays, poetry, and memoirs; and popular and experimental films and videos. Crosslisted: ENGL; Humanities (HU)

PEACH213 BIOETHICS & SOCIAL JUSTICE
Christopher Roebuck
This course offers social science perspectives on bioethics. It takes as its object of investigation bioethics itself and the conditions of its possibility and emergence in the last 50 years as a complex, netting together a growing assembly of actors, objects, relations, sites, and issues under the aegis of the good and the just in science and medicine. But how is the good and just defined; by whom; why; and with sorts of consequences for life and death, health and illness, survival and injury? Topics (ie. problems, questions, case studies) include definitions of life, death, personhood; access to medical care and pharmaceuticals; biological experimentation and pharmaceutical trials; sex and the body; race, gender, and medical discrimination; health equity, social justice, and human rights. Prerequisite(s): one course from the division of Social Sciences; Social Science (SO)

PEACH213 LITERATURE OF THE CIVIL RIGHTS AND LGBTQ RIGHTS MOVEMENTS
Anne Balay
The course covers more than a century, and two incredibly vast and diverse social movements, and asks how art, literature, and culture intersect with lived experience, imagining an exchange between these two spheres, rather than the distinction often upheld. Crosslisted: ICPR; Humanities (HU)

PEACH225 BRING YOUR OWN BODY: TRANSGENDER BETWEEN ARCHIVES AND AESTHETICS
Jeanne Vaccaro
How do we read, record and write histories and practices of sexual difference—in the archives, a queer bar, or an art gallery? This seminar examines the relationship between queer politics and archival methods. Together we will both study and theorize the study of gender and sexuality as intersecting with the personal investments of identity politics. Through organized visits to archives and special collections, students will learn practical and conceptual strategies for pursuing research in sexuality studies; we will then shift into an exploration of counter archives, paying special attention to ephemeral objects, material culture, digital media, quotidain aesthetics, and subcultural scenes in the making of queer knowledge. The exhibition Bring Your Own Body (Cantor Fitzgerald Galley, October 21—December 16, 2016) will serve as a both case study and laboratory, with programming augmenting class readings. Crosslisted: ICPR, Health Studies; Humanities (HU)
**PEACH249 COLONIAL LAW & HUMAN RIGHTS**  
*Jesse Shipley*

This course examines the colonial legacies of contemporary discourses of human rights and development as they are relevant in contemporary global politics. By taking an historical approach to the idea of rights we will make connections between sovereignty, the rule of law, and the rights of citizenship. We will use a critical eye to explore the conditions of possibility that allow states, development organizations, donor agencies, and individuals to unwittingly reproduce centuries old tropes of poverty, degradation, and helplessness of non-Western peoples. Using historical descriptions of the encounters between Europeans and Africans in West Africa and South Africa we will unpack assumptions about African societies. We will also explore liberalism and its connections to British colonialism its contemporary incarnations.

Prerequisite(s): one course related to Africa, African politics, African literature; Social Science (SO)

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**PEACH284 ORGANIZATIONS, MISSIONS, CONSTRAINTS: HUMANITARIANISM AND HUMAN RIGHTS IN PRACTICE**  
*Adam Rosenblatt*

The course focuses on honing skills of analysis, research, and institutional literacy that are useful to any student seeking to work in a mission-driven organization, internationally or locally. Students conduct semester-long research project on an organization relevant to their interests.

Prerequisite(s): PEAC 101 or PEAC 201 or a POLS course or consent of instructor; Crosslisted: Political Science; Social Science (SO)

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**PEACH298 IMPACT INVESTING**  
*Shannon Mudd*

Impact investing is investing to generate both a financial return and a positive social benefit. It supports firms seeking to address social, environmental and/or governance problems (ESG) in a sustainable way often within market activity. The focus of this course is to not only gain an understanding of the theory and practice of impact investing across its many components, but also to gain practical experience by assessing a particular set of potential impact investments, making formal presentations of findings to an investment committee leading to a recommendation for investment to a partnering foundation.

Prerequisite(s): ECON 105 or 106; Crosslisted: ECON, ICPR; Social Science (SO)

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**PEACH306 SEEKING PEACE WITHIN WAR: MILITARY MEDICINE AND THE SEARCH FOR HEALTHY VIOLENCE**  
*Staff*

As an institution, the military trains individuals to conduct violence while remaining, at least ideally, healthy. From the standpoint of the institution, a successful soldier is someone who is an expert in the application of violence at the same time that he or she is mentally and physically fit. With a close look at warfare and the U.S. military, this course tackles the intersection of violence and health. Students will explore the social, cultural, political, historical, and economic contexts shaping the health of war torn communities, soldiers, and veterans. Crosslisted: SOCL; Social Science (SO)

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**PEACH307 HUMAN RIGHTS AND THE DEAD**  
*Adam Rosenblatt*

This course examines philosophical and literary arguments about the status of the dead and the rights they have. It also explores the material presence of dead bodies as reminders of the effects of violence, objects of mourning and “problems” for those who seek to move forward into a new, post-conflict future. Prerequisite(s): a 200-level course in PEAC/PJHR, POLS, ANTH, or permission of the instructor; Humanities (HU)

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**PEACH309 AGAINST DEATH: OPPOSING CAPITAL PUNISHMENT IN AMERICAN LITERATURE AND CULTURE**  
*Lindsay Reckson*

Advanced inquiry into creative and critical responses to the death penalty in the United States from the 1830s to the 1970s. Our aim is to explore the relationship between art and social protest, and to examine how capital punishment has manifested U.S. histories of race, class, gender, religion, and sexuality. Readings in primary historical materials, literary and cultural analysis, and critical theory.

Prerequisite(s): Freshman Writing, plus one 200-level ENGL course; or freshman writing plus PEAC 101 or PEAC 201; Crosslisted: ENGL; Humanities (HU)

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**PEACH312 THE POWER OF IDEAS: POLITICAL IDEOLOGIES**  
*Thomas Donahue*
Millions of people have willingly sacrificed their lives in the name of political ideologies like liberalism, conservatism, socialism, fascism, anarchism, or nationalism. Why? What is it that these and the other leading political ideologies of modern times offer to people? This course examines these and other ideologies, like secularism, feminism, and political Islam. For each ideology, we examine its key concepts, questions, doctrines, principles, values, and underlying rationale. The aim is to give students the tools to make their own reasoned judgments about the merits of any ideology. Prerequisite(s): one course in POLS or PHIL; Crosslisted: POLS; Social Science (SO)

**PEACH313 SOCIAL JUSTICE: A WORKSHOP ON ETHICS AND SOCIAL CHANGE**  
Terrance Wiley  
This interdisciplinary course (workshop) will pivot around close readings of classic and contemporary writings and robust discussions with distinguished visitors about the ethical dimensions of and practical responses to contemporary social conditions, problems, and controversies. Crosslisted: ICPR; Social Science (SO)

**PEACH315 ORAL HISTORY AND ACTIVISM**  
Anne Balay  
This course explores the ethics, politics, and practice of oral history as an activist research methodology, focusing on the theory, practice and ethics of documenting oral histories. Students will get training and practice in oral history. Prerequisite(s): PEAC 101 or 201 or a 200-level course in POLS, ENGL, ANTH, SOCL or consent of instructor; Crosslisted: ICPR; Humanities (HU)

**PEACH317 INTERNATIONAL LAW: HISTORY, STRUCTURE, PRINCIPLES**  
Thomas Donahue  
International law is a system of norms by which states regulate their treatment of each other and of each other’s citizens. But many say that it is nothing more than diplomats making promises they intend to break at the first opportunity. Are they right, or can international law help bring order, peace, and justice to world affairs? This course will help students answer this question by exploring the history, structure, and principles of international law. We focus on its scope, sources, subjects, content, enforcement mechanisms, and authority compared to domestic law. Prerequisite(s): one course in the social sciences, PJHR, or PHIL; Crosslisted: POLS; Social Science (SO)

**PEACH318 GENDER AND ETHICS OF GLOBAL DEVELOPMENT**  
Samantha Noll  
Explores gender studies and global development ethics using a philosophical and feminist approach, and covering gender oppression, cultural relativism, power, multiculturalism, international development, global justice, and historical introduction to the fields of development ethics and gender and development studies. Prerequisite(s): PEAC 101 or 201 or consent of instructor; Humanities (HU)

**PEACH353 CITIZENSHIP, MIGRATION, AND Belonging**  
Zainab Saleh  
Migration, displacement and tourism at a mass scale are a modern phenomenon. These different forms of movements have intensified debates over the other, identity, home, and exile. This course offers a critical examination of the question of human movement in the age of globalization. Some of the issues that will we focus on include: national identity and globalization, mass media, nostalgia and the notion of home, and imagination of the past/home among migrant groups. The course will also explore new academic approaches that have emphasized hybrid identities and double-consciousness among both migrant communities and the host countries. Prerequisite(s): one 200-level course in ANTH, POLS, SOCL, or HIST; Social Science (SO)

**PEACH395 CAPSTONE IN PEACE, JUSTICE AND HUMAN RIGHTS**  
Adam Rosenblatt, Jill Stauffer  
This capstone course consolidates student experience of a program that integrates scholarship, theory, library and field research, and policy perspectives. It incorporates research assignments, collaboration, a conference presentation and a dossier on student work in the concentration. PJHR concentrators only. Humanities (HU)
Philosophy at Haverford aims as far as possible to reflect the richness, diversity, and reflexivity of philosophical inquiry. Grounded throughout in the history of philosophy, many courses focus on particular subfields, on value theory, for instance, or the philosophy of mind, ancient philosophy, or the philosophy of logic and language. A student of philosophy at Haverford might study views regarding the ultimate nature of reality or pursue questions about the nature of a good human life, might grapple with theoretical problems of social meaning or with puzzles that arise on reflection about language.

Global Philosophy
The department also provides courses in global philosophy that seek to cultivate global philosophical literacy for students across all majors. (These courses, which are not included within the major or minor, appear at the conclusion of this departmental description.)

The Department of Philosophy helps students—whether or not they are majors in the discipline—to develop the reflective, analytical, and critical skills required for thoughtful engagement with problems and issues in all aspects of life. Courses introduce students to seminal ideas that have changed, or have the potential to change, our most fundamental understanding of who we are and how we should live our lives. Because the study of philosophy is essentially reflexive, we also encourage students to reflect on and (if need be) problematize not only the methods of philosophy but also its history, goals, and achievements.

Careers and Graduate Work
Since the study of philosophy strengthens both the skill of analytical thinking characteristic of scientific investigation and the strong verbal and writing skills of the humanist, advanced undergraduate training in philosophy is excellent preparation for a wide range of career paths. It is also at the core of a liberal education—regardless of one’s primary intellectual interests. Some Haverford philosophy majors go on to graduate school in philosophy. Most pursue careers in other disciplines such as medicine, law, education, public service, architecture, and business.

LEARNING GOALS
In studying the discipline of philosophy, students:
• learn to recognize and articulate philosophical problems, whether those that arise within philosophy or those to be found in other academic disciplines and outside the academy.
• become skilled at thinking, reading, writing, and speaking thoughtfully and critically about philosophical problems, through learning to recognize, assess, and formulate cogent and compelling pieces of philosophical reasoning both in writing and verbally.
• achieve literacy in a wide range of philosophical works and develop thoughtful views about their interrelations.
• develop attitudes and habits of reflection, appreciation for the complexities of significant questions in all aspects of their lives, and the courage to address those complexities.

CURRICULUM
Unless otherwise indicated, one philosophy course at the 100 level is a prerequisite for all other courses in philosophy. Courses at the 300 level require, in addition, a 200-level course plus junior standing, or consent of the instructor. Some advanced philosophy courses may require a reading knowledge of a foreign language as a prerequisite for admission.

MAJOR REQUIREMENTS
• One philosophy course at the 100 level, or Bryn Mawr Philosophy 101, 102, or 201, or the equivalent elsewhere.
• Five philosophy courses at the 200 level, at least four of which must be completed by the end of the junior year, and three philosophy courses at the 300 level.
• The Senior Seminar (399A and 399B).

The eight courses at the 200 and 300 level must furthermore satisfy the following requirements:
• Historical: One course must be from among those that deal with the history of European philosophy prior to Kant.
• Topical breadth:
  o One course must be from among those that deal with value theory, including
ethics, aesthetics, social and political philosophy, and legal philosophy.

- One course must be from among those that deal with metaphysics and epistemology, including ontology, philosophy of mind, philosophy of psychology, and philosophy of action.
- One course must be from among those that deal with logic, the philosophy of literature, and/or the philosophy of language.

**Systematic coherence:** Four of these courses, two at the 200 level and two at the 300 level, must exhibit some systematic coherence in theme or subject satisfactory to the major adviser and department.

Students electing a major in philosophy, but unable to comply with normal requirements because of special circumstances should consult the chairperson regarding waivers or substitutions.

Majors are also encouraged to be discussion leaders in their senior year.

**MINOR REQUIREMENTS**

- One philosophy course at the 100 level, or Bryn Mawr Philosophy 101, 102, or 201, or the equivalent elsewhere.
- Three philosophy courses at the 200 level.
- Two philosophy courses at the 300 level.

Among the 200- and 300-level courses: one must be in value theory (broadly conceived to include ethics, social and political philosophy, aesthetics, and legal philosophy), one must be in metaphysics and epistemology (including ontology, philosophy of mind, and philosophy of action), and one must be concerned with philosophical texts written before the twentieth century. This third requirement can be satisfied concurrently with either of the other two (e.g., by taking a course in ancient ethics, or in Descartes’ metaphysics), or can be satisfied separately from the other two.

**SENIOR PROJECT**

The capstone of the philosophy major is the Senior Seminar. This two course seminar (PHIL 399A and PHIL 399B) comprises (1) a year-long research project culminating in a senior thesis, (2) student presentations and discussion of the students’ works-in-progress in preparation for the final, formal presentation of the thesis at the end of the spring term, and (3) seminars with visiting speakers throughout the senior year.

The senior thesis (thirty pages) is on a topic of the student’s choice. It is written under the supervision of a first reader who meets with the student on a regular basis throughout the year, usually weekly. A second reader also reads and comments on the student’s written work and may also meet regularly with the student. In the fall, students write a twenty-page research paper introducing the literature on the topic and the issues it involves. In the spring, students build on this base, developing an analysis of the issues and an argument in defense of the conclusions drawn. A draft of the thesis is submitted in March; the final version is due the end of April.

After a very short initial presentation in the fall to introduce their research topics, students give three substantial presentations of their work: at the end of the fall semester, in March, and in May. Each presentation is followed by a question period.

In preparation for the fall Altherr Symposium, featuring a speaker of the students’ choice, students and faculty read works by the Altherr speaker, and students prepare discussion questions both for the Symposium lecture and for the seminar with the speaker. Seniors also attend all other invited speaker events, of which there are four or five over the course of the year, and they have a short seminar with each speaker to further discuss the presented work.

**Senior Project Learning Goals**

In the process of researching and writing the senior thesis, students should acquire and demonstrate:

- the ability to articulate a philosophically rich but also manageable research question.
- the ability to locate and to learn from relevant work on the topic by other philosophers.
- the ability to assess critically and fairly other positions and views, and to develop arguments in support of those assessments.
- the ability to explain in a compelling way the philosophical interest of the research topic and to develop a sustained and cogent philosophical argument for the conclusions reached.

In the course of repeated presentations and discussions, students should acquire and demonstrate:
the capacity to develop and enact thoughtful and effective presentations.

• the ability to respond constructively to presentations on a very wide range of philosophical topics, even those with which one is unfamiliar.

• the ability to respond productively to questions about and criticisms of one's work.

**Senior Project Assessment**
A student’s faculty advisers collectively assess the thesis project (written and oral components) on the following criteria:

• Conceptualization of Research Question and Historical Argument: Students acknowledge and explore the full implications of an innovative thesis question.

• Familiarity with and Understanding of Primary Texts: Students engage primary sources to answer their research question and display a creative approach to existing sources or bring new and illuminating sources to bear on their research question.

• Engagement with Secondary Literature: Students demonstrate mastery of scholarly literature that pertains to their thesis topic by synthesis of and contribution to the scholarly conversation.

• Methodological and Theoretical Approach: Students ground their theses in current knowledge about their historical period, demonstrating a thorough understanding of relevant methodological and theoretical issues.

• Quality of Argument: Students construct a well reasoned, well structured, and clearly expressed argument.

• Clarity of Writing: Writing is consistently engaging, clear, well organized, and enjoyable to read.

• Oral Presentation: At the end of the semester, students demonstrate comprehensive understanding of their topic in an articulate and engaging presentation and are able to provide innovative and thoughtful answers to questions. Student demonstrates capacity to connect thesis project to prior coursework in history and related disciplines.

**REQUIREMENTS FOR HONORS**
The award of honors in philosophy will be based upon distinguished work in philosophy courses, active and constructive participation in the senior seminar, and the writing and presentation of the senior essay. High honors requires in addition exceptional and original work in the senior essay.

**TRAVEL GRANTS**
Travel grants of up to $100 each will be available to be awarded to philosophy majors (juniors and seniors) for travel to scholarly conferences. Students presenting papers at undergraduate conferences will be given priority, and no student will be eligible for more than one grant in a given academic year.

**FACULTY**

*Jerry Miller*
Department Chair and Associate Professor of Philosophy

*Ashok Gangadean*
The Emily Judson and John Marshall Gest Professor of Global Philosophy

*Danielle Macbeth*
T. Wistar Brown Professor of Philosophy

*Kathleen Wright (on partial leave 2016-2017)*
Professor of Philosophy

*Joel Yurdin (on leave 2016-2017)*
Assistant Professor of Philosophy

*Brooks Sommerville*
Visiting Assistant Professor of Philosophy

**Affiliated Faculty:**

*Jill Stauffer*
Assistant Professor and Director of the Interdisciplinary Concentration in Peace, Justice and Human Rights

**COURSES**

**PHILH103 GLOBAL ETHICS**
*Ashok Gangadean*
An exploration of selected texts on ethics in a global context. This course seeks to develop a global perspective on human values through a critical exploration of vital texts on ethics across diverse philosophical traditions. A central focus is on the challenge of articulating global ethics and global values across cultures, worldviews, and traditions. Readings include Aristotle’s *Nicomachean Ethics*, *Bhagavad-Gita*, the *Analects of Confucius*, and Kant’s *Fundamental Principles*. Humanities (HU)
PHILH104 GLOBAL WISDOM
Ashok Gangadean
A critical exploration of classic texts from diverse philosophical traditions in a global context. This course seeks to cultivate a global perspective in philosophy and brings classical texts from diverse philosophical worlds into global dialogue. One aim is to help students to appreciate global patterns in rationality across traditions and to gain a critical understanding of common ground and significant differences in diverse wisdom traditions. Readings include Bhagavad-Gita, Dhamapada, Plato’s Phaedo, and Descartes’s Meditations. Humanities (HU)

PHILH105 LOVE, FRIENDSHIP, AND THE ETHICAL LIFE
Kathleen Wright
Different conceptions of the role of love and friendship in ethical life. Readings include ancient Greek philosophy (Plato’s Symposium, and Aristotle’s Nicomachean Ethics), modern European philosophy (Kant’s Grounding for the Metaphysics of Morals, and Mill’s On the Subjection of Women), and contemporary postmodern and feminist philosophy (Derrida’s The Politics of Friendship, and Irigaray’s The Ethics of Sexual Difference). Humanities (HU)

PHILH107 HAPPINESS, VIRTUE, AND THE GOOD LIFE
Joel Yurdin
Happiness is something that we all want, but what exactly is it? This course considers the nature of the virtues and their roles in a happy life, the relations between happiness and morality, and the meaning (or meaninglessness) of life. Readings from classic and contemporary sources, including Plato, Aristotle, Kant, Nagel, and Wolf. Humanities (HU)

PHILH108 MODERN THEORIES OF CONSCIOUSNESS: RATIONAL ANIMALS
Brooks Sommerville
Humanities (HU)

PHILH110 MIND AND WORLD
Danielle Macbeth
An introduction to the history of our conception of ourselves as rational beings in the world through a close reading of central texts in the European tradition that address both the sorts of beings we are and the nature of the world as it is the object of our natural scientific knowledge. Humanities (HU)

PHILH111 THE WICKED AND THE WORTHY
Jerry Miller
The possibility of “doing good” in the world presumes that one can distinguish between good and bad actions, people, and consequences. But on what basis are we to make such distinctions? What grounds, if anything, our definitions of good and bad? How can we be certain that our actions, and thus our own selves, are not evil? This course examines such concerns through a survey of the history of ethical philosophy. In digging up the “root of all good,” we will consider as well questions of self-interest, justice, freedom, and duty. Readings include selections from Plato’s Republic, Mill’s Utilitarianism, Kant’s Groundwork of the Metaphysics of Morals, and Nietzsche’s Beyond Good and Evil. Humanities (HU)

PHILH116 WHAT CAN WE KNOW?
Staff
An introductory course examining some of the most fundamental philosophical questions through a careful reading of pivotal texts in Western philosophy. Readings include Plato, René Descartes, David Hume, Thomas Reid, and G. E. Moore as well as some contemporary scholars. First year students only. Humanities (HU)

PHILH210 PLATO
Brooks Sommerville
A close reading of Plato’s Meno, Phaedo, Republic, Symposium, and Theaetetus, with a focus on issues in philosophical psychology, metaphysics, and the theory of knowledge. Emphasis is on a philosophical understanding of the views and arguments suggested by the texts, and special attention is paid to the roles of literary aspects of the texts in the presentation of philosophical content. Humanities (HU)

PHILH212 ARISTOTLE
Joel Yurdin
An analytic study of the main works of Aristotle. Particular attention is paid to the theory of being and substance developed in Aristotle’s Metaphysics, to the theory of animal life developed in his treatise On the Soul, and to the understanding of good human action and choice developed in the Nicomachean Ethics. Primary emphasis is on the interpretation and understanding of the philosophical arguments that are elaborated in these works. Humanities (HU)
PHILH221 EARLY MODERN CONTINENTAL PHILOSOPHY

Staff
A close analytical reading of selected texts from the classical Continental rationalists, with a focus on epistemology and metaphysics. Topics include: ideas, skepticism, belief, knowledge, science, bodies, minds, God, causation, natural laws, afterlife, and personal identity. Our main figures include Descartes, Malebranche, Spinoza, and Leibniz. Humanities (HU)

PHILH226 NIETZSCHE
Kathleen Wright
Humanities (HU)

PHILH235 EARLY CHINESE PHILOSOPHY
Kathleen Wright
An introduction to the lively and sharp disputes between competing schools of philosophy in ancient Chinese philosophy, that is, philosophy in the pre-Han period prior to the syncretism that marks Confucianism, neo-Confucianism, and most recently New Confucianism. Humanities (HU)

PHILH237 CONFUCIAN ETHICS
Kathleen Wright
This course is on contemporary debates in philosophy about the relation between Confucian ethics and (1) virtue ethics and (2) the feminist ethics of care. Prerequisite(s): one 100-level course in philosophy or by permission of the instructor; Humanities (HU)

PHILH241 HINDU PHILOSOPHY
Ashok Gangadean
A critical exploration of classical Hindu thought (Vedanta) in a global and comparative context. Special focus on selected Principal Upanisads, a close meditative reading of the Bhagavad Gita and an in depth exploration of Shankara’s BrahmaSutra Commentary. Humanities (HU)

PHILH242 BUDDHIST PHILOSOPHY IN A GLOBAL CONTEXT
Ashok Gangadean
An introduction to classical Indian Buddhist thought in a global and comparative context. The course begins with a meditative reading of the classical text-The Dhamapada-and proceeds to an in depth critical exploration of the teachings of Nagarjuna, the great dialectician who founded the Madhyamika School. Humanities (HU)

PHILH251 PHILOSOPHY OF MIND
Danielle Macbeth
The focus of this course is the question of the place of mind in nature, in the world. What sort of thing is a mind? What is it to be conscious? Can there be freedom of the will in a physical world? Could a computer ever be correctly described as thinking? Do animals have minds? Our aim is to clarify what we are asking when we ask such questions, and to begin at least to formulate answers. Humanities (HU)

PHILH252 PHILOSOPHY OF LOGIC AND LANGUAGE
Ashok Gangadean
A comparative exploration of alternative paradigms of logic, language and meaning from a logical and philosophical point of view. Special attention is given to the classical Aristotelian grammar of thought and the modern grammars developed by Frege, Wittgenstein, Quine, Heidegger, Sommers, Derrida and others. Focus is on the quest for the fundamental logic of natural language. Humanities (HU)

PHILH253 ANALYTIC PHILOSOPHY OF LANGUAGE
Danielle Macbeth
A close study of seminal essays by Frege, Russell, Kripke, Quine, Davidson, and others focusing on questions of meaning, reference, and truth. An overarching aim of the course is to understand how one can approach fundamental issues in philosophy through a critical reflection on how language works. Prerequisite(s): one 100 level class or its equivalent, or consent; Humanities (HU)

PHILH254 METAPHYSICS: GLOBAL ONTOLOGY
Ashok Gangadean
A critical examination of philosophical accounts of reality and being. Special attention is given to how world views are formed and transformed: an ontological exploration of diverse alternative categorical frameworks for experience. Metaphysical narratives of diverse thinkers in the evolution of the European tradition are explored in global context. Humanities (HU)

PHILH255 VIRTUE EPISTEMOLOGY
Danielle Macbeth
An introduction to various issues in the theory of knowledge through a critical examination of recent
work aiming to understand what it is good to believe by appeal to the virtues of an intellectually good person. Humanities (HU)

PHILH257 CRITICAL APPROACHES TO ETHICAL THEORY
Jerry Miller
This course examines efforts over the last century to engage the ethical without recourse to formal systems or foundational principles. How, these approaches ask, can we talk about good and evil, morality and immorality, while believing “truth” to be historically, linguistically, and culturally contingent? In the process of drafting possible answers, we shall think deeply about concepts such as violence, justice, and social responsibility. Humanities (HU)

PHILH259 STRUCTURALISM AND POST-STRUCTURALISM
Jerry Miller
An introduction to key readings in 20th century continental philosophy in the areas of semiotics, critical theory, and deconstruction. Of primary importance will be issues of mimesis and alterity, authority, and value. Readings include Barthes, Althusser, Foucault, Derrida, Kristeva, and Jameson. Humanities (HU)

PHILH260 HISTORICAL INTRODUCTION TO LOGIC
Danielle Macbeth
Our aim is two-fold: first, to understand - in the sense of having a working knowledge of - both traditional Aristotelean and modern quantificational logic (translating sentences into logical notation, assessing the validity of arguments, constructing proofs, and so on); and second, to understand logic, why it matters, what it can teach us (both as philosophers and as thinkers more generally), and how it “works” in the broadest sense. Humanities (HU)

PHILH261 EXPERIENCE, KNOW-HOW, AND SKILLED COPING
Joel Yurdin
An investigation of three debates concerning the character of experiential knowledge. (1) Is experience the same as expertise? Is it required for the acquisition of expertise? (2) What is the difference between knowing-how and knowing that, and how are they related? (3) What is the phenomenology of skillful behavior? Humanities (HU)

PHILH265 VALUE THEORY
Jerry Miller
A study of various modern and contemporary strains of metaethics and value theory. How can things and persons be objects of value? By what capacities do we apprehend worth? The objective is to better understand whether and how ethical knowledge is possible. Humanities (HU)

PHILH301 TOPICS IN PHILOSOPHY OF LITERATURE
Jerry Miller
Humanities (HU)

PHILH311 TOPICS IN GREEK PHILOSOPHY: HEDONISM
Joel Yurdin, Brooks Sommerville
Humanities (HU)

PHILH321 TOPICS IN EARLY MODERN PHILOSOPHY: IDEALISM
Staff
Mind-independent physical objects obviously exist, right? Idealism, one of the most important and interesting movements in the modern period, holds that reality is entirely made up of minds and their ideas. The movement has been widely influential not only in philosophy but also in physics, neuroscience, psychology, art, and so on, in views which prioritize the role of the mental. Leibniz and Berkeley present two very different versions of idealism. How are their theories defended and which one is more plausible? Is Kant’s “Transcendental Idealism” another version of idealism? We will examine primary texts along with selected scholarly work. Students will practice interpreting, discussing, and writing about texts in the ways professional philosophers do. Humanities (HU)

PHILH335 TOPICS IN MODERN EUROPEAN PHILOSOPHY
Marilyn Piety
Humanities (HU)

PHILH342 ZEN THOUGHT IN A GLOBAL CONTEXT
Ashok Gangadean
This advanced seminar focuses on the development of Zen (Japanese) Buddhism culminating in the work of Nishida and his influential Kyoto School of Zen Philosophy. The background in the Indian origins of Madhyamika dialectic introduced by Nagarjuna is traced through the Zen Master Dogen
and into flourishing of the modern Kyoto School founded by Nishida. The seminar focuses in the texts by Dogen and on selected writings in the Kyoto School: Nishida, Nishitani and Abe. The seminar involves intensive discussion of the issues on global context of philosophy. Nishida’s thought is developed in dialogue with thinkers such as Aristotle, Descartes, Kant, Hegel, Husserl, Sartre and Heidegger, Nagarjuna and others.

Prerequisite(s): an Intro Phil course (100 series) and either 241 (Hindu Thought) or 242 Buddhist Thought) or a course in Relg or EALC Thought or consent; Humanities (HU)

PHILH350 TOPICS IN THE PHILOSOPHY OF MATHEMATICS
Danielle Macbeth
Humanities (HU)

PHILH352 METAPHOR, MEANING AND THE DIALOGICAL MIND
Ashok Gangadean
This course explores the nature of language with special attention to the origin of meaning and metaphor in the dialogical mind. Topics include: primary meaning: literal, symbolic, metaphoric; truth and reality; analogy and imagination; hermeneutics of communication and translatability; meditative meaning and the limits of language; indeterminacy and ambiguity across diverse language-worlds; voice and speech as determinants of meaning and the dynamics of dialogue between worlds. A unifying theme focuses on releasing the power of meaning in the transformation from egocentric patterns of thought to the dialogical awakening of mind. Readings include selections from such diverse thinkers as Plato, Aristotle, Heidegger, Wittgenstein, Sommers, Derrida and Nagarjuna and others. Humanities (HU)

PHILH370 TOPICS IN ETHICAL THEORY: RACE
Jerry Miller
This course examines the relation of racial and evaluative difference in modernity. Readings will focus on the role of embodiment in determinations of comparative worth and as a site of ethical knowledge. Humanities (HU)

PHILH399 SENIOR SEMINAR
Staff
This course has several components: (a) participation in the Altherr Symposium, including three to four meetings devoted to preparation for the symposium, (b) participation in the Distinguished Visitors series, (c) the writing of a senior thesis, and (d) presentation of one’s work for critical discussion with others in the seminar, as well as a final formal presentation. Humanities (HU)
The Physics Department provides majors with a high level of competency in many facets of physics, including experimental laboratory skills, physical problem-solving, mathematical expertise and scientific computing, in addition to considerable physics content knowledge.

While many of our majors go on to graduate study, we have structured our programs to be sufficiently flexible that they also accommodate students wishing to study abroad, or to combine physics with other fields of study, such as medicine and interdisciplinary programs in astrophysics, biophysics, chemical physics, computing, and engineering. Students can explore these options by selecting either the traditional or interdisciplinary major, which have different requirements. All students receive advanced training in at least three of the foundational areas of physics (including mechanics, electricity and magnetism, thermal and statistical physics and quantum mechanics). We also provide opportunities to participate in original research with faculty members.

**LEARNING GOALS**
We expect that physics students should be able to solve problems independently in the main areas covered in our curriculum, not only by applying equations straightforwardly to solve standard problems, but also by translating their knowledge into solutions of novel physical scenarios. Students are expected to both gain content knowledge, both conceptual and quantitative, as well as process skills (e.g., the use of mathematical tools such as Fourier analysis, as well as computer methods for solving equations) appropriate for each course. Our laboratories, for instance, require substantial independent hands-on experimental work, teamwork, data analysis and reporting (in the form of a journal article in our advanced laboratories), and oral reporting, to allow the instructor to assess the level of understanding and performance of each student.

**CURRICULUM**
The department offers a unified coherent curriculum through the first two years, covering mechanics, thermal physics, waves, optics, electricity and magnetism, fluid mechanics, quantum mechanics and special relativity. We provide several different paths to enter the study of physics to accommodate differing levels of preparation and other academic interests. After the second year, we encourage students to select among course options according to their interests, so the actual content of the program can be different for different students. All students receive advanced training in at least three of the foundational areas of physics (including mechanics, electricity and magnetism, thermal and statistical physics and quantum mechanics). We also provide opportunities to participate in original research with faculty members.

We advise prospective majors in all of the science disciplines to study some physics in their freshman or sophomore year, given that all contemporary sciences rely heavily on basic physical principles. There are three different introductory options:

- PHYS 101 and 102 constitute a year-long, self-contained treatment of all of physics, with particular attention to applications in the life sciences.
- PHYS 105 and 106 use calculus somewhat more intensively and are designed for students who expect to continue their study of physics in other courses, in the Physics, Astronomy or Chemistry Departments.
- PHYS 115 (followed by 106) provides a third option, designed for students with advanced preparation. Advice on course selection is provided on the department’s web site.

The department also offers several courses with no prerequisites, which students with no prior experience in physics can take:

- PHYS 112, which examines the conceptual difficulties of quantum mechanics.
- PHYS 113, which examines symmetry and its role in the universe.

A typical course sequence introducing both the traditional major and the minor consists of PHYS 105 (or 115), 106, 213, 214, and the 211 and 301 laboratories. However, students beginning their study in PHYS 101 and 102 may continue with PHYS 213 and join the major or minor as well.

PHYS 105 (or 115), 106, 213, and 214 are also prerequisites for the astronomy and astrophysics
majors; we strongly recommend (but do not require) the half-credit course ASTR/PHYS 152, which is intended for first-year students considering a physical science major who would like an opportunity to study recent developments in astrophysics.

PHYS 213 and 214 and their associated laboratories (PHYS 211 and 301) serve as an introduction to waves, electronics, optics, mathematical methods in physics and quantum physics. We also offer a set of 300-level lecture courses covering core areas of physics as well as some topical subjects such as solid state physics and computational astrophysics.

In addition to concentrated study in core areas of physics, such as statistical physics and quantum mechanics, the department emphasizes student participation in research with faculty members. Currently, we have active research programs in soft condensed matter and granular physics, astroparticle and early Universe physics, extragalactic astronomy, biological physics, and nanoscience. Courses numbered PHYS 412 to 415 provide majors with opportunities to participate in these research efforts for academic credit during their senior year. Paid summer research positions are often available.

Advanced students interested in teaching may participate in the instructional program by registering for PHYS 459 or 460. (Students interested in physics or science education at the secondary level should also consult the teaching certification information in the section on Education and Educational Studies.)

**MAJOR REQUIREMENTS**

Physics offers three distinct programs: a traditional major, an interdisciplinary major designed to accommodate a focused plan of study in a different field, and a minor. The requirements for these three options are listed below.

**Traditional Physics Major Requirements**

- PHYS 103 (or PHYS 117 or 119), 106 (or 102), 213, 214, 211, and 301 (or Bryn Mawr equivalents).
- Students may take the last two concurrently with 213 and 214.
- MATH 121 (or 216) and 215 (or one of: MATH 222, the Bryn Mawr equivalent of MATH 215, another 200-level mathematics course with permission).
- Six upper-level courses in physics at Haverford or Bryn Mawr.
  - One of these must be a laboratory course such as PHYS 326 or Bryn Mawr 305.
  - Majors must take three of the four core theoretical courses: PHYS 302, 303, 308, and 309.
  - One of the six upper-level physics courses may be a 400-level research course.
  - Majors may count either PHYS 459 or 460 among the six upper-level courses.
  - Majors must take one course outside the department, at a level consistent with the student's background, in astronomy, biology, computer science, chemistry, engineering (at Penn or Swarthmore) or mathematics (beyond those courses required for the major). (This requirement is waived for double majors.)
- PHYS 399, including a presentation and senior paper based on independent work, and attendance at senior colloquia and distinguished lectures hosted by the department.

Students may replace two of the six upper-level courses by upper-level courses in a related department, with the approval of the major advisor. (The department asks students to prepare a brief written statement explaining the relationship between the proposed courses and the physics major.)

Students considering graduate study in physics should take four of the following five courses by the end of their junior year: 302, 303, 308, 309, and 326 (or their Bryn Mawr equivalents).

**Interdisciplinary Physics Major Requirements**

We encourage students with multiple academic interests who are not likely to undertake physics graduate study to consider the interdisciplinary physics major, with a slightly abbreviated set of requirements students can complete in three years. The interdisciplinary major differs from the traditional physics major by offering more flexible course choices and by coordinating the physics courses with the student's work in another field. In the version requiring the fewest physics courses, this major requires 8.5 instead of 12 physics courses, while both majors require 2 math courses, and 3 courses in a related field.
PHYSICS

Students can discuss this track—which can also facilitate a concentration, an engineering option, or a minor in another department—with any member of the department.

The requirements are as follows:

- Either PHYS 105 (or 115) and 106, or PHYS 101 and 102.
- PHYS 213 and 214 (our sophomore lecture course sequence) and PHYS 211 (sophomore-level laboratory course).
- MATH 121 (or 216) and 215 (or one of: MATH 222, the Bryn Mawr equivalent of MATH 215, another 200-level mathematics course with permission).
- Three 300-level physics lecture courses, two of which must be drawn from these core courses: PHYS 302, 303, 308, and 309.
- An upper-level laboratory course in the natural or applied sciences, such as PHYS 301, ASTR 341A, BIOL 300A or B, or CHEM 301 or 302. (Alternately, the student can request the substitution of an advanced laboratory course in another area of science or applied science.)
- Two other courses, at the 200 level or higher in a related field, that are part of a coherent program, which the student proposes and the major advisor must approve.
- Senior Seminar (PHYS 399) and the associated senior talk and thesis.

MINOR REQUIREMENTS

- PHYS 105 (or 101 or 115) and PHYS 106 (or 102); PHYS 213, 214, 211 and PHYS 301 labs (or Bryn Mawr equivalents).
- MATH 121 (or 216) and MATH 215 (or one of: MATH 222, the Bryn Mawr equivalent of MATH 215, another 200-level mathematics course with permission).
- One of the four “core” 300-level lecture courses in physics at Haverford or Bryn Mawr: PHYS 302 (Advanced Quantum Mechanics), 303 (Statistical Physics), 308 (Advanced Classical Mechanics), or 309 (Advanced Electromagnetism and Modern Optics).
- Participation for two semesters in the public lectures and seminars hosted by the department.

SENIOR PROJECT

The senior research program demonstrates achievement in depth in a particular subfield of physics or astrophysics. Students participate in PHYS 399, a year-long, ½ credit senior seminar. We assess students by their performance on a short talk during the fall semester, a comprehensive talk or poster presentation in the spring semester and a senior thesis (typically 25-50 pages, including figures and references), written in the form of a scientific paper.

In addition, as part of the year-long senior seminar, senior physics majors study topics in scientific integrity in two student-led meetings, using readings and role-playing scenarios to learn best practices in the ethical conduct of research. They also receive training in life after Haverford, including how to choose and apply to graduate schools, and what careers are available outside science for physics majors.

Students are expected to place their senior research work in the context of the scientific literature in their field of study, and to present their results to an audience of professionals (for their thesis) and their peers (for the talk or poster). They are given training in searching and reading the scientific literature by each research supervisor, as well as specific materials through the senior seminar course.

Most students also take a senior research course for credit (though this is not required). Their work in this course also assesses their research accomplishments. The precise expectations and standards are necessarily different for theoretical and experimental research, and for each specific subfield of physics. However, a useful standard is that student theses ought to be comparable in quality to student-published works in the American Journal of Physics.

Senior Project Learning Goals

We expect senior research in physics to demonstrate:

- a clear understanding of the scientific context of the research (including a review of the relevant scientific literature).
- mastery of the content and findings of the research.
- independent problem solving and ability to synthesize material.
- an understanding of the forward looking implications of the research findings.

Haverford College Catalog 2016-2017
PHYSICS

- clarity in the public presentation of the research.

**Senior Project Assessment**
The evaluation of students’ overall work in the senior seminar includes both their content knowledge in their research area, and their ability to communicate this work. In the fall semester, students write up the introduction and background sections of their senior thesis while getting training in researching and reading the scientific literature and properly referencing their bibliographic sources. They receive formative assessment from their senior thesis advisor on the fall paper, including suggestions for improvements on the final thesis. For the senior thesis, there are multiple rounds of assessment, since students get ongoing feedback from their research supervisors while writing their thesis, and they submit two distinct formal drafts which are read carefully by two faculty members who give extensive feedback. After each round, students must respond to this feedback while preparing their final thesis.

Similarly, each student gives a first short (10 minute) research talk in the fall and is given department-wide comments about how to improve this talk before they prepare and give their final senior presentation. Typically, each student practices each presentation several times, receiving detailed feedback from a supervisor in between to ensure they present their work at a level comparable with that of poster presentations and short talks at the American Physical Society or other comparable annual meetings.

The thesis research itself is evaluated for (i) a demonstrated understanding of the context and content of the research (including a review of the relevant scientific literature), (ii) independent problem solving and synthesis, and (iii) success in understanding the forward looking implications of the research.

The written and oral presentations of the research are evaluated for (i) a clear and appropriate writing style and (ii) well-curated visual displays of the research.

A further confirmation of quality is the number of senior research projects that lead to publication in a peer-reviewed scientific journal.

**Requirements for Honors**
The departmental awards for honors in physics are based on the quality of performance in course work and the senior colloquium and paper. High honors carries the additional requirement of demonstrated originality in senior research.

**Concentrations and Interdisciplinary Minors**
Physics majors can pursue a concentration in scientific computing.

Physics majors with biological interests may also qualify for the biophysics concentration.

Physics majors may also take an area of concentration in education.

Each of these concentrations is described in its relevant section of the Catalog.

**Affiliated Programs**
Students interested in engineering can complete an individualized major program in preparation for graduate work in engineering or the Engineering 4+1 Program with the University of Pennsylvania or the 3/2 Program with Caltech; for details see the Engineering section. Students interested in materials science should also consult the related offerings in materials chemistry through Haverford’s Department of Chemistry.

**Study Abroad**
Physics majors can and do pursue studies abroad. There are a number of programs, mostly in English-speaking countries, that allow physics majors to continue and broaden their studies in the field while abroad.

**Facilities**
See the departmental web page for a description of laboratories, equipment and other special facilities for this program.

**Faculty**
Suzanne Amador Kane
Chair & Professor

Theodore Brzinski
Assistant Professor

Haverford College Catalog 2016-2017
PHYSICS

Daniel Grin
Assistant Professor

Desika Narayanan (on leave Spring 2017)
Assistant Professor

Bruce Partridge (on leave Fall 2016)
Professor, Emeritus

Walter Smith
Professor

Paul Thorman
Laboratory Instructor

Kevin Setter
Visiting Assistant Professor

Beth Willman (on leave 2016-17)
Associate Professor

COURSES

PHYSH101 CLASSICAL AND MODERN PHYSICS I
Kevin Setter
Three class hours and one laboratory period. The first of a two-semester comprehensive introduction to physics, with an emphasis on life science applications involving Newtonian mechanics, oscillations, mechanics of materials, fluids, and thermal physics. Prerequisite(s): Calculus at the level of MATH 118 or equivalent should be taken prior to or concurrently with this course; Natural Science (NA), Quantitative (QU)

PHYSH102 CLASSICAL AND MODERN PHYSICS II
Kevin Setter
Prerequisite(s): PHYS 101 and MATH 118 or equivalent. Three class hours and one laboratory period. Natural Science (NA), Quantitative (QU)

PHYSH105 FUNDAMENTAL PHYSICS I
Suzanne Amador Kane, Théodore Brzinski
Three class hours and one laboratory period. Newtonian mechanics and thermodynamics. Applications are drawn primarily from the physical sciences. This sequence (105/106) is meant as a one-year introduction suitable for students interested in the physical sciences. Prerequisite(s): MATH 118 or equivalent; Natural Science (NA); Quantitative (QU)

PHYSH106 FUNDAMENTAL PHYSICS II
Théodore Brzinski
Prerequisite(s): PHYS 105 and MATH 118 or equivalent. Three class hours and one laboratory period. Natural Science (NA), Quantitative (QU)

PHYSH115 MODERN INTRODUCTORY PHYSICS: BEYOND NEWTON
Théodore Brzinski
Three class hours and one laboratory period. This introductory course provides students who have an advanced background in mechanics with an alternative pathway into physics by exploring applications of introductory physics through a modern perspective. Examples will be drawn from topics such as quantum physics, materials and nanoscience, biophysics, chaos and fluid motion, and relativity. This course forms a year-long sequence with PHYS 106: Fundamental Physics II (Electricity and Magnetism) in the spring semester. Prerequisite(s): advanced placement in physics and MATH 118 or the equivalent; Natural Science (NA); Quantitative (QU)

PHYSH152 FIRST-YEAR SEMINAR IN ASTROPHYSICS
Bruce Partridge
This half-credit course is intended for prospective physical science majors with an interest in recent developments in astrophysics. Topics in modern astrophysics will be viewed in the context of underlying physical principles. Topics include black holes, quasars, neutron stars, supernovae, dark matter, the Big Bang, and Einstein's relativity theories. Prerequisite(s): Physics 101a or 105a and concurrent enrollment in Physics 102b or 106b (or Bryn Mawr equivalents); Crosslisted: Astronomy; Natural Science (NA)

PHYSH211 LABORATORY IN ELECTRONICS, WAVES AND OPTICS
Suzanne Amador Kane
The first half of this laboratory is an introduction to analog electronics and instrumentation. The second half includes experiments in waves and optics. Normally taken concurrently with PHYS 213. Prerequisite(s): PHYS 106 or equivalent; Natural Science (NA)

PHYSH213 WAVES AND OPTICS
Walter Smith
Vibrations and waves in mechanical, electronic, and optical systems with an introduction to related mathematical methods such as functions of a
complex variable and Fourier analysis. Topics include free and driven oscillations, resonance, superposition, coupled oscillators and normal modes, traveling waves, Maxwell’s equations and electromagnetic waves, interference, and diffraction. PHYS 211f, a related laboratory half-course, is normally taken concurrently and is required for majors. Prerequisite(s): PHYS 106 or equivalent; Natural Science (NA), Quantitative (QU)

**PHYSH214 INTRODUCTORY QUANTUM MECHANICS**  
*Daniel Grin*  
Introduction to the principles governing systems at the atomic scale. Topics include the experimental basis of quantum mechanics, wave-particle duality, Schrödinger’s equation and solutions in one dimension, time dependence of quantum states, angular momentum, and one-electron atoms. Recent developments, such as paradoxes calling attention to the remarkable behavior of quantum systems, or quantum computing, will be discussed. Multi-electron atoms and nuclei will be considered if time allows. PHYS 212, a related laboratory half-course is required for majors, and may be taken concurrently. Prerequisite(s): PHYS 211 or consent; Natural Science (NA), Quantitative (QU)

**PHYSH301 QUANTUM PHYSICS LABORATORY**  
*Walter Smith*  
A full-semester weekly laboratory focusing on experiments of modern relevance with a focus on quantum mechanics. Topics include: how lasers work and laser spectroscopy; spin resonance; nuclear and cosmic ray physics; electron diffraction; photoelectric effect; superconductivity; quantum eraser (a “which way” experiment), etc. One of two laboratories at the advanced level required for the regular physics major; fulfills the advanced laboratory requirement for the interdisciplinary physics major. Replaces PHYS 212i. Prerequisite(s): PHYS 211. Laboratory in Electronics and Wave Physics; Corequisite(s): PHYS 214b or equivalent; Natural Science (NA), Quantitative (QU)

**PHYSH302 ADVANCED QUANTUM MECHANICS**  
*Daniel Grin*  
A continuation of the study of quantum mechanics begun in 214. Topics include matrix mechanics and spin, many-particle systems, perturbation theory and scattering theory. A variety of physical systems will be treated as examples, including simple atoms and solids. Prerequisite(s): PHYSH214 or PHYSB306; Natural Science (NA)

**PHYSH303 STATISTICAL PHYSICS**  
*Staff*  
Treatment of many particle systems using classical and quantum statistics and ensembles to derive the laws of thermodynamics and statistical mechanics. This course includes applications to the thermal properties of matter (solids, liquids and gases), photon, and phonon systems. Prerequisite(s): PHYSH213 or PHYSB306; Natural Science (NA)

**PHYSH308 MECHANICS OF DISCRETE AND CONTINUOUS SYSTEMS**  
*Daniel Grin*  
Classical mechanics of systems of particles, and also continua such as fluids, including oscillations and chaos, Lagrangian mechanics, dynamics of systems of particles, the Navier-Stokes equations of fluids, and applications to diverse physical phenomena that may vary from year to year, e.g. waves, vortices, rotating fluids, flight, instabilities, turbulence, and biological flows. Prerequisite(s): PHYSH213 or PHYSB306; Natural Science (NA)

**PHYSH309 ADVANCED ELECTROMAGNETISM**  
*Staff*  
Boundary value problems, multipole fields, dielectric and magnetic materials; electromagnetic waves, propagation in dielectric media, conductors and waveguides; gauge transformations, radiating systems. Prerequisite(s): PHYSH213 or PHYSB306; Natural Science (NA)

**PHYSH322 SOLID STATE PHYSICS**  
*Walter Smith*  
Understanding both conventional and soft materials using the principles of quantum and statistical physics. Crystallinity, lattice dynamics, conduction in metals, semiconductors and devices, and soft systems such as colloids, polymers, liquid crystals, and biological materials. Prerequisite(s): PHYSH214b or PHYSB306. Statistical physics is desirable. Typically offered yearly in alternation with Bryn Mawr; Natural Science (NA)

**PHYSH325 ADVANCED TOPICS: QUANTUM MECHANICS**  
*Kevin Setter*
This course will provide an introduction to particle physics and quantum field theory. We will cover such particle physics topics as: the Standard Model, decay rates and scattering amplitudes, symmetries. Additionally, we will cover selected aspects of quantum field theory such as: the path integral formulation of quantum mechanics, quantization of continuous systems, and renormalization.

Prerequisite(s): PHYS 106 or equivalent (elementary special relativity); PHYS 214 or equivalent (introductory quantum mechanics); Natural Science (NA)

PHYSH326 ADVANCED PHYSICS LABORATORY
Walter Smith
Design, execution, and analysis of significant experiments, which change from year to year. Those presently available include studies of microfluidics, atomic spectroscopy, cosmic ray physics, laser tweezers, x-ray diffraction and materials synthesis, superconductivity, sensor technologies, and chaotic dynamics. The course emphasizes the effective use of contemporary experimental tools, including low-noise measurement techniques, laboratory computers, and optical methods. Prerequisite(s): PHYS 301; Natural Science (NA)

PHYSH399 SENIOR SEMINAR
Desika Narayanan
A capstone experience for seniors in physics meeting biweekly throughout the year. An introduction to scientific writing and speaking; scientific ethics; graduate study in physics and astronomy; career options for physics and astronomy majors, both within the field and outside science; preparation and presentation of senior papers and colloquia; attendance at lectures by distinguished visitors; and discussions of student and faculty research projects in the department. Natural Science (NA)

PHYSH411 RESEARCH IN SOFT MATTER PHYSICS
Theodore Brzinski
Natural Science (NA)

PHYSH412 RESEARCH IN THEORETICAL AND COMPUTATIONAL PHYSICS
Kevin Setter, Daniel Grin
Independent research on current problems in theoretical physics, with emphasis on the physics of condensed matter systems; extensive use is made of computer-based methods. Natural Science (NA)

PHYSH413 RESEARCH IN BIOPHYSICS
Suzanne Amador Kane
Research into topics that lie at the interface of biological physics, soft condensed matter physics and statistical physics. Past projects have included studies of how animals use visual guidance during predator pursuit and prey evasion, the biomechanics of mating displays, the kinematics of raptor take-off flight, how birds signal by calling during flocking, computer modeling of bacterial diversity in ecosystems, and biologically-inspired nanostructures. Natural Science (NA)

PHYSH415 RESEARCH IN NANOSCALE PHYSICS
Walter Smith
Prerequisite(s): consent of instructor. Advanced lab experience preferred; Natural Science (NA)
The Political Science Department seeks to address issues of power, citizenship, government, and justice in the United States and throughout the world by studying the diversity of political life and thought in our own age and in the past. Our goal is to provide students with a deep understanding of the core concepts and practices of politics and government while developing the analytical, research, and writing skills that enable them to think critically and creatively about existing structures of power and privilege. In doing so, we hope to nurture a lifelong fascination and engagement with the political realm.

Haverford’s program is designed to provide an understanding of how and why decisions are made. For many students this knowledge serves as the foundation for participation in public affairs and the shaping of the policies that affect their communities and their personal lives. Many majors choose to go on to law school, but just as readily to government service, journalism, teaching, community organizing, any one of which might lead to running for office. Given that most of our classes are small enough to allow ample discussion and dialogue, students leave Haverford well equipped for those continuing discussions that determine the quality of life in our society.

LEARNING GOALS
The Political Science Department provides students with an opportunity to explore politics and government from multiple vantage points—at the grassroots, the nation-state, and the global community—and from a variety of theoretical, conceptual, comparative, historical, and experiential perspectives.

We aim to:
• provide students with a broad background in the discipline of political science, including its multiple methods and subfields as well as substantive knowledge (i.e., facts, concepts, theories, etc.) about different debates and topics within the discipline.
• guide students so they can make pathways through the curriculum in ways that reflect an accumulation of learning and that help them develop a greater level of mastery over at least one body of scholarship within political science.
• cultivate critical, analytic and synthetic thinking about local, national, international and transnational politics, as well as about the nature of political power, governance, citizenship, and justice.
• help students acquire the skills of communication, collaboration, and listening necessary for effective participation within an intellectual community.
• train students to carry out sustained independent research.
• prepare students to become informed and reflective citizens who are knowledgeable about the forces that shape political life.

CURRICULUM
We offer courses in the five subfields of political science at the introductory, intermediate, and advanced levels. We coordinate our offerings with those at Bryn Mawr in order to provide a wide range of subjects.

Courses fall into the following five subfields:
• American Politics (A): major institutions; bureaucracy; discrimination; urban politics and urban policy; and ethnicity, gender, sexuality, and class in relation to American politics.
• Comparative Politics (C): politics and governments throughout the world; women and politics; comparative political economy; human rights; civil war and revolution; and transitions to democracy.
• International Relations (I): international political economy and international security; the state system; international organizations; causes of war, terrorism, peace-building, and reconciliation; and American foreign policy.
• Globalization and Global Governance (G): cosmopolitan theory; democracy and global governance; capitalism and its critics; global economy; global civil society and global justice movements.
• Political Theory (T): justice, equality, and liberty; power, authority, and order; democratic theory; American political thought; feminist theory; and politics and culture.
MAJOR REQUIREMENTS

• Two of the following 100-level courses to enter the major: POLS 121, 123, 131, 151, 161, and 171. These courses must represent two different subfields.
• Six elective courses taken above the 100 level.
• A 300-level research seminar, taken in the department during the fall semester of the senior year. (This is in addition to the six elective courses described above.)
• A combination of introductory and elective courses that includes representation of three of the five subfields, with work at the intermediate or advanced level in at least two subfields.
  o Students may count some courses in either of the two subfields but not in both.
  o With the consent of a member of the department, students may substitute two or three intermediate- or advanced-level courses from another department for the third subfield, where this serves to complement and strengthen the student’s work within the department. For example, a student concentrating in international politics might offer international economics courses as a subfield; a student in comparative politics might offer courses in an area study; a student in political theory might offer social and political philosophy courses; or a student in American politics might offer social policy courses. Students can count such substitutions towards fulfilling the subfield requirement only. They cannot count these towards political science course credit and cannot use them to fulfill the introductory, elective, and seminar requirements outlined above.
• All senior majors write a thesis and complete an oral defense of the thesis through enrollment in POLS 400.
• Four courses outside political science at Haverford or Bryn Mawr College that relate to the major. Examples of possible interests around which courses could cluster are: American or other area studies; political and social theory; international affairs; environmental policies; urban affairs; intermediate and advanced foreign language work related to work in the major; or courses from one or more of the other social sciences.

SENIOR PROJECT

The senior thesis represents the capstone of the political science major. It is a year-long independent research project designed and implemented by each senior political science major with the guidance and support of an assigned thesis adviser. Students receive one credit for an advanced-level seminar in the fall semester of their senior year. With few exceptions, this seminar is taken with the student’s thesis adviser. During the fall semester seminar students select a research topic, formulate a research question, begin acquiring conceptual and theoretical sophistication through a comprehensive review of the relevant scholarly literature, and prepare a thesis proposal or research design. This proposal will guide each student’s original research during the spring semester. Near the end of the fall semester seniors submit their thesis proposals to all members of the department and present their thesis proposals before the department faculty and fellow students. These proposal defenses are intended to provide students with useful critical feedback during the fall semester when there is still time to make major adjustments to the project if necessary. They are also intended to build an esprit de corps among majors while giving them valuable experience with oral presentation and public accountability.

In the spring semester students register for POLS 400, a supervised research and writing course. During this semester, students conduct independent research and write up their findings with the guidance and feedback of their adviser. Throughout the spring semester students meet regularly with their thesis adviser and submit drafts of thesis chapters to their adviser. After students submit their final written theses in April, they are required to give a 30-minute oral defense of their theses to their adviser and at least one other political science faculty member in early May.

Senior Project Learning Goals

The goal of the thesis is to promote the ongoing acquisition of research and analytical skills, as well as the ability to carry out extensive projects independently and consistent with the highest standards of excellence. Most students writing a thesis will identify an interesting and important research question, explore how other scholars have attempted to address that question, and devise a viable research plan. Students who choose to concentrate in political theory pursue normative
research and focus on interpretation and analysis of philosophical texts. Students are expected to conduct their own research, often using both primary and secondary sources, and to evaluate how their findings relate to existing scholarship in the field.

**Senior Project Assessment**

Students are assessed based upon their proposal, their written thesis, their oral defense, and their performance throughout the thesis process. They are evaluated according to several criteria, including:

- their conceptualization of a research question.
- their ability to effectively and concisely present their argument and findings.
- their ability to draw conclusions and extensions of their research to broader arenas.
- their engagement with secondary material and use of primary sources.
- their ability to identify, critique, develop, and apply core concepts and theories.
- their ability to obtain a basic understanding of research methodologies.
- their ability to comprehend and respond to questioning.
- the quality and organization of their writing.
- the timely submission of work and responsiveness to feedback.
- the originality of their ideas and the ambition of their project.
- the breadth of their knowledge related to their thesis topic.
- the depth of their knowledge related to their thesis topic.
- their comprehension of the scope and limitations of their own research.

During the fall semester, students receive feedback from their professor and their peers on various assignments that often include a combination of the following: thesis proposal, annotated bibliography and literature review. The presentation of the thesis proposal in the fall semester is an opportunity for members in the department other than the adviser to weigh in on and evaluate a student’s progress. The feedback received in the fall from fellow students and the department faculty at the thesis proposal defense is beneficial for students as they move ahead with their projects in the spring.

Throughout the spring semester students receive feedback from their thesis adviser through regular meetings and comments on thesis drafts. The schedule for the submission of drafts and individual meetings in the spring semester is determined by the student and his/her adviser. Prior to the oral defense of the thesis in May each student submits a thesis abstract. This abstract is an important element of the defense in that it is designed to serve as a succinct overview of the thesis argument and methodology. The defense is attended by the student, the thesis adviser, and one other member of the department faculty. After the defense, the two faculty members discuss the student’s project and overall performance. Ultimate responsibility for grading of the thesis (POLS 400) belongs to the supervising faculty member.

**REQUIREMENTS FOR HONORS**

The department awards honors to senior majors who have demonstrated excellence in their coursework in political science and their senior thesis. The department may grant high honors to a select number of senior majors who have attained an outstanding level of distinction in their political science courses and senior thesis.

**CONCENTRATIONS AND INTERDISCIPLINARY MINORS**

The department contributes to multiple concentrations, including those in Peace, Justice, and Human Rights; Middle East and Islamic Studies; African and Africana Studies; Latin American and Iberian Studies; and Gender and Sexuality Studies.

**RESEARCH AND FIELDWORK**

Faculty have conducted research in Latin America, Africa, the Middle East, and Asia, and students have had opportunities to assist faculty members with field research in places like Guatemala and Mali. The department encourages students to supplement their classroom work by studying abroad or applying for a grant from the College’s Center for Peace and Global Citizenship (haverford.edu/cpgc) to undertake internships in other countries.

**FACULTY**

**Susanna Wing**

Chair and Associate Professor

**Anita Isaacs**

Benjamin R. Collins Professor of Social Sciences
COURSES

POLSH121 AMERICAN POLITICS
Stephen McGovern, Zachary Oberfield
This course introduces students to scholarship about the exercise and distribution of political power in the U.S. Topics include: presidential leadership; legislative politics; the role of the courts; the bureaucracy; federalism; political parties and the electoral system; interest groups; public opinion; mass media; public policy; and the politics of class, race, and gender. Social Science (SO)

POLSH131 COMPARATIVE GOVERNMENT AND POLITICS
Anita Isaacs, Susanna Wing
An introduction to basic concepts and themes in comparative politics analyzed through case studies from around the world. Themes include political authority and governance structures; political culture and identity politics; political participation and representation; and political economy. Social Science (SO)

POLSH151 INTERNATIONAL POLITICS
Barak Mendelsohn
This course offers an introduction to the study of international politics. It considers examples from history and addresses contemporary issues, while introducing and evaluating the political theories that have been used by scholars to explain those events. The principal goal of the course is to develop a general set of analytical approaches that can be used to gain insight into the nature of world politics—past, present and future. Social Science (SO)

POLSH161 THE POLITICS OF GLOBALIZATION
Thomas Donahue, Craig Borowiak
An introduction to the major academic and policy debates over globalization and global governance. Key themes will include: sovereignty, free/fair trade; immigration; anti-globalization and violence; democratic governance and international economic institutions; and the global justice movement. Social Science (SO)

POLSH171 INTRODUCTION TO POLITICAL THEORY: POWER, FREEDOM, AND (DIS)OBEDIENCE
Paulina Ochoa Espejo
An introduction to central concepts of political life through exploring the questions and problems surrounding democratic freedom, power, authority and citizenship. Reading from ancient, modern, and contemporary sources, literary as well as philosophical, American as well as European, will be included. Social Science (SO)

POLSH205 BORDERS, IMMIGRATION, AND CITIZENSHIP
Paulina Ochoa Espejo
A survey of contemporary theories of citizenship, borders and immigration. We will ask who should be a member of a political community, and whether states have a right to exclude immigrants. The course will draw examples from current events. Prerequisite(s): at least one political science course; Social Science (SO)

POLSH207 INJUSTICES: HUMAN AND ANIMAL
Thomas Donahue
What are the major injustices of our time? Race, gender, class, sweatshops, animal exploitation? What are the harms done by these and other injustices, and how can we remedy them? What makes something a social injustice, and who is responsible for dealing with it? Are animals the victims of a massive injustice? This course examines leading theories of human and animal injustices that deal with these matters. Our aim is to give students the tools to build their own theory about these and other alleged injustices. Social Science (SO)
POLITICAL SCIENCE

POLSH208 POLITICAL THOUGHT IN THE GLOBAL SOUTH: THE CASE OF LATIN AMERICA
Paulina Ochoa Espejo
What can political thought in the Global South teach the world? We will ask fundamental questions in political philosophy (about power, race and inequality) through the writings of Latin American thinkers from Colonial times to the 20th C. Prerequisite(s): any 100-level political science course; History 114, 208, or 209 (Origins of the Global South, Colonial and Modern Latin America); or Independent Programs 240 (Latin American or Iberian Cultures and Civilization); Social Science (SO)

POLSH214 BUREAUCRACY AND DEMOCRACY
Zachary Oberfield
A major law is passed. An executive order is signed. A court makes a ruling. Then what? How do these abstract decisions get made into public policy? Who are the people who implement them? Why are they given responsibility? Why are they frequently maligned? This course is devoted to exploring these questions by studying the eternal tug-of-war between bureaucracy and democracy. Studying this tension requires that we focus deeply on organizations in theory and practice and the unelected people who work in government. Social Science (SO)

POLSH223 AMERICAN POLITICAL PROCESS: THE CONGRESS
Zachary Oberfield
Functional and behavioral analysis of the policy-making process in Congress, from the electoral process as it affects Congress to the distribution of power and influence in Congress, and the relations of Congress with the Executive Branch. Social Science (SO)

POLSH224 THE AMERICAN PRESIDENCY
Zachary Oberfield
The institution of the Presidency in the past few decades: how the President relates to 1) Congress, 2) others in the executive branch, 3) his party, and 4) the public. Social Science (SO)

POLSH226 SOCIAL MOVEMENT THEORY
Stephen McGovern
Theoretical analysis of origins and development of mass-based protest movements in the U.S. Scholarly explanations of recruitment of individuals, modes of organization and leadership, strategies and tactics, countermovements, and the impact of movements on policy and politics. Social Science (SO)

POLSH227 URBAN POLITICS
Stephen McGovern
Examines who wields power in American cities amidst broad social and economic change. Includes both historical and contemporary analysis of urban politics, with close attention to the influence of race, ethnicity, and class. Prerequisite(s): One class in political science or urban studies or consent of instructor; Social Science (SO)

POLSH228 URBAN POLICY
Stephen McGovern
Assessment of public policies aimed at revitalizing U.S. cities following several decades of suburbanization and capital disinvestment. Focus on economic development, housing and community development, environmental protection, transportation, education, crime, and the management of regional sprawl. Social Science (SO)

POLSH235 AFRICAN POLITICS
Susanna Wing
Analysis of political change in Africa from the colonial period to contemporary politics. Selected case studies will be used to address central themes including democracy, human rights, gender, interstate relations, economic development, and globalization. Social Science (SO)

POLSH242 WOMEN IN WAR AND PEACE
Susanna Wing
Analysis of the complex issues surrounding women as political actors and the ways in which citizenship relates to men and women differently. Selected cases from the United States, Africa, Latin America, and Asia are studied as we discuss gender, domestic politics, and international relations from a global perspective. Prerequisite(s): one course in POLS or consent; Social Science (SO)

POLSH245 THE STATE SYSTEM
Barak Mendelsohn
The state-based order originated with the peace of Westphalia in the 17tth century. Since that momentous occasion the state system has continuously evolved, spreading from Europe to the rest of the world, and developing norms and institutions to govern international politics. This
course offers a survey of the literature concerning the state-based system, past and present. It begins by introducing analytical perspectives on international relations a state-based order. The second part of the course addresses a range of specific issues, including the evolution of the state system throughout the past four centuries, the preservation of international order through the system’s strongest powers, and the establishment of institutions that sustain this order. The course concludes with an exploration of world order under American hegemony, as well as the future of this order in light of the rise of China and globalization processes. The principal goal of the course is to develop a general set of analytical approaches that can be used to gain insight into the nature of world politics—past, present and future. Social Science (SO)

POLSH249 THE SOVIET SYSTEM AND ITS DEMISE
Vladimir Kontorovich
The Soviet system was inspired by some of the loftiest ideals of humanity. The entire society was redesigned so as to pursue common goals, rather than conflicting private objectives. The economy was run for people, not profits. The Soviet system is no more, but the ideas on which it was founded will probably always be with us. What does the largest social and economic experiment in history teach us? The course is 1/3 political science and 2/3 economics. Social Science (SO)

POLSH253 INTRODUCTION TO TERRORISM STUDIES
Barak Mendelsohn
After being marginalized in international relations scholarship for years, in the aftermath of 9/11 terrorism has moved to the forefront of scholarly interest. The purpose of this course is to survey the various theories concerning terrorism from diverse perspectives employing rationalist and psychological theories to explain terrorism-related phenomena. Social Science (SO)

POLSH256 THE EVOLUTION OF THE JIHADI MOVEMENT
Barak Mendelsohn
This course explores the evolution of the jihadi movement, focusing on its ideological development throughout the twentieth century, and the structural changes it has gone through since the jihad to drive the Soviets out of Afghanistan during the 1980s. Social Science (SO)

POLSH261 GLOBAL CIVIL SOCIETY
Craig Borowiak
An introduction to the concept of civil society and to how civil society actors and social movements organize across national borders. Attention will be paid both to theory and to particular case studies, including the global justice movement, international human rights advocacy networks, and transnational environmental NGOs, among other possibilities. Social Science (SO)

POLSH265 POLITICS, MARKETS AND THEORIES OF CAPITALISM
Craig Borowiak
Theoretical approach to the role of politics and markets in modern societies. Draws from the history of political economic thought to evaluate the modern capitalist system and its critics. Key authors include the Mercantilists, Adam Smith, anarchist authors, Karl Marx, Karl Polanyi, F.A. Hayek, J.M. Keynes, and Milton Friedman. Prerequisite(s): one political science course or consent of instructor; Social Science (SO)

POLSH266 SOVEREIGNTY
Paulina Ochoa Espejo
An examination of the concept sovereignty as it figures within international politics and democratic theory. Explores the theoretical and historical origins of the concept as well as contemporary adaptations, challenges and critiques. Topics include the state system and international intervention, democratic authority and globalization, indigenous and food sovereignty, and proposals for post-sovereign forms of polity. Social Science (SO)

POLSH274 ENDS AND MEANS: MORAL CHOICES IN POLITICS
Thomas Donahue
Can politics be moral? Can the end justify the means? Examines how to make moral choices in politics, and the moral dilemmas it poses, by scrutinizing how great theories answered these questions, including Machiavelli, Thoreau, Martin Luther King, Jr., Malcolm X, Camus, Sartre, Dewey, Trotsky, Rosa Luxemburg, Reinhold Niebuhr, and Elizabeth Anscombe. A special focus on the ethics of war. Prerequisite(s): must have taken at least one course in Political Science; Social Science (SO)
POLITICAL SCIENCE

POLSH282 INEQUALITY AND PUBLIC POLICY
Matthew Incantalupo
An exploration of the relationship between policy and economic outcomes—or “who gets what”—in the United States. We will examine the causes of rising inequality and its effects on American democracy, with a focus on wages, taxes, healthcare, education, and criminal justice. Prerequisite(s): ECON 105; Social Science (SO)

POLSH283 AFRICAN POLITICS AND LITERATURE
Susanna Wing
The study of politics in Africa through African literature. We explore themes including colonial legacies, gender, race and ethnicity, religion and political transition as they are discussed in African literature. Prerequisite(s): one previous course in political science or consent of the instructor; Social Science (SO)

POLSH284 ORGANIZATIONS, MISSIONS, CONSTRAINTS: HUMANITARIANISM AND HUMAN RIGHTS IN PRACTICE
Adam Rosenblatt
The course focuses on honing skills of analysis, research, and institutional literacy that are useful to any student seeking to work in a mission-driven organization, internationally or locally. Students conduct semester-long research project on an organization relevant to their interests. Prerequisite(s): PEAC 101 or PEAC 201 or a POLS course or consent of instructor; Social Science (SO)

POLSH286 RELIGION AND AMERICAN PUBLIC LIFE
Molly Farneth
This course examines the role of Christianity in shaping America’s religious identity(ies) and democratic imagination(s). The course will also examine whether, if at all, citizens are justified in retrieving their religious commitments in public debates. Crosslisted: Religion; Humanities (HU)

POLSH288 GOVERNING THE GLOBAL ECONOMY IN TIMES OF CRISIS
Craig Borowiak
An examination of how the global economy is governed and how governance bodies have responded to and/or been complicit in crises and their aftermaths. Critical attention will be paid to power asymmetries in the international system and their consequences. Cases will include the 2008 financial crisis and the subsequent debt crises. Other cases might include the international governance of intellectual property rights, digital governance, and international trade regimes, among other possibilities. Prerequisite(s): one political science course or consent of instructor; Social Science (SO)

POLSH305 MAJORITY RULE, MINORITY RIGHTS, AND SOCIAL CHOICE
Thomas Donahue
Examines the mechanics of decision making in democracy. Asks what’s so great about consensus or majority rule? Are they even possible? How should we protect minority rights? Considers the great theories of the advantages and disadvantages of such rules. Examines theories that national majorities are irrational and unreasonable, and challenges to the possibility of democracy. Introduces students to the economic analysis of social choice. Prerequisite(s): must have taken at least one political science course; Social Science (SO)

POLSH312 THE POWER OF IDEAS: POLITICAL IDEOLOGIES
Thomas Donahue
Millions of people have willingly sacrificed their lives in the name of political ideologies like liberalism, conservatism, socialism, fascism, anarchism, or nationalism. Why? What is it that these and the other leading political ideologies of modern times offer to people? This course examines these and other ideologies, like secularism, feminism, and political Islam. For each ideology, we examine its key concepts, questions, doctrines, principles, values, and underlying rationale. The aim is to give students the tools to make their own reasoned judgments about the merits of any ideology. Prerequisite(s): one course in political science or philosophy; Social Science (SO)

POLSH313 ARMED NON-STATE ACTORS IN INTERNATIONAL POLITICS
Barak Mendelsohn
The principal goal of the course is to expose students to various types of armed nonstate actors and gain insights into their motives and activities. The course also introduces analytical lens through which scholars have sought to conceptualize the interplay between states and armed nonstate actors. Prerequisite(s): one political science course; Social Science (SO)
POLSH315 PUBLIC POLICY ANALYSIS
Zachary Oberfield
Each student will select a public policy to analyze, looking at the nature of the problem being addressed as well as benefits, costs, and risks. Alternative policy solutions to the problem will be examined and a final proposal put forward. Prerequisite(s): junior or senior standing or consent of the instructor; Social Science (SO)

POLSH316 RACE, POVERTY, AND THE U.S. WELFARE STATE
Zachary Oberfield
This course is designed to help students gain a deeper understanding of the contours and politics of the U.S. welfare state - the cluster of policies designed to address poverty and inequality. Throughout the course, we will use the lens of race in understanding these policies and politics; Social Science (SO)

POLSH317 INTERNATIONAL LAW: HISTORY, STRUCTURE, PRINCIPLES
Thomas Donahue
International law is a system of norms by which states regulate their treatment of each other and of each other’s citizens. But many say that it is nothing more than diplomats making promises they intend to break at the first opportunity. Are they right, or can international law help bring order, peace, and justice to world affairs? This course will help students answer this question by exploring the history, structure, and principles of international law. We focus on its scope, sources, subjects, content, enforcement mechanisms, and authority compared to domestic law. Prerequisite(s): one course in the social sciences, PJHR, or PHIL. Crosslisted: PJHR; Social Science (SO)

POLSH320 DEMOCRACY IN AMERICA
Stephen McGovern
This seminar explores some of the most pressing challenges to American democracy today, including the intensification of ideological and partisan polarization, increasing economic inequality, ongoing constraints faced by marginalized groups, and concerns about the diminishing quality of citizen participation in politics; Social Science (SO)

POLSH330 TOPICS IN COMPARATIVE POLITICS
Susanna Wing
This is a workshop course built around student interests and senior thesis topics. We will explore issues including, but not limited to, ethnicity, religion, gender and the state. We will look at how states pursue both political and economic development and how they cope with violent conflict. Prerequisite(s): three courses in political science AND junior or senior status, or consent of instructor; Social Science (SO)

POLSH333 INTERNATIONAL SECURITY
Barak Mendelsohn
This course offers an introduction to the study of international security. It considers examples from history and addresses contemporary issues, while introducing and evaluating the political theories that have been used by scholars to explain those events. The principal goal of the course is to develop a general set of analytical approaches that can be used to gain insight into the nature of world politics - past, present and future. The first section introduces key conceptual issues and review main theoretical approaches in the field. The second section addresses specific issues in international security such as war, military doctrines, alliances, crisis, deterrence, grand strategy, and proliferation; Social Science (SO)

POLSH334 POLITICS OF VIOLENCE
Anita Isaacs
We examine the causes, nature and evolution of violent, intra-state conflict. We assess alternative explanations that include fear and insecurity provoked by failing states, greed and grievance, state repression and manipulative political leadership; we explore the recruitment patterns and organizational structures of insurgent movements; and we probe the responsibility of the international community to resolving civil strife. Our cases studies for spring 2015 are Syria, Palestine, Sierra Leone, Rwanda, Colombia and El Salvador. Crosslisted: POLS, PJHR; Social Science (SO)

POLSH336 DEMOCRACY AND DEMOCRATIZATION
Anita Isaacs
The processes of democratization in historical and comparative perspective. It investigates the meaning of democracy and assesses factors that facilitate or impede democratic transition and durability; including strategies of elites, civil society and external actors, civil-military relations, institutional design and the relationship between democratization and economic transformation; Social Science (SO)
POLITICAL SCIENCE

POLSH357 INTERNATIONAL RELATIONS THEORY: CONFLICT AND THE MIDDLE EAST
Barak Mendelsohn
Conflicts in the Middle East since World War I. Cleavages are discussed that have contributed to the emergence of violent conflicts in the region and discusses particular conflicts. Social Science (SO)

POLSH365 SOLIDARITY ECONOMY MOVEMENTS
Craig Borowiak
An intensive research seminar critically examining the politics, theory and social networks behind solidarity economy movements that seek to create solidarity-based alternatives to capitalism. Includes study of the fair trade movement, eco-villages, cooperative movements, and participatory budgeting, among other initiatives. Social Science (SO)

POLSH366 ADVANCED RESEARCH IN GLOBAL GOVERNANCE
Craig Borowiak
Research seminar designed for students interested in working on long research papers or preparing for senior theses related to the global governance subfield or similar fields. The course will cover research methodologies, writing strategies, and discussions of contemporary global governance scholarship, which will be used to anchor the course thematically and to model different approaches to research. Students' independent research will be complemented with regular and intensive collaborative workshopping of one another's work in class. Prerequisite(s): three courses in political science AND junior or senior status, or consent of instructor; Social Science (SO)

POLSH375 CONTEMPORARY POLITICAL THEORY
Paulina Ochoa Espejo
This course examines the main contemporary theories of politics by focusing on a central topic of political philosophy: how to justify authority. We will explore how these political theories can be used to deal with contemporary problems as defined by particular interests of students in the course; Social Science (SO)

POLSH400 SENIOR THESIS
Staff
This course consists of tutorials and intensive research, culminating in a senior thesis. Prerequisite(s): limited to political science senior majors; Social Science (SO)
The aim of the Psychology Department is to provide students with an understanding of human behavior that will support their ability to add to scientific knowledge, to help others, and to participate as informed members of our society. One path to this goal involves mastery of the theoretical concepts psychologists use in describing and understanding behavior; the other involves competence in the use of the scientific methodologies employed in the study of behavior. We emphasize the importance of both concepts and methods across diverse topic areas within psychology, including biological, cognitive, social, personality, and culture.

LEARNING GOALS
• Students will gain a broad understanding of human behavior, from a variety of perspectives.
• Students will learn to treat questions and claims about behavior rigorously, with an empirical approach.
• Students will master the skills to contribute new knowledge in the field.

MAJOR REQUIREMENTS
The psychology major contains a breadth requirement, a general research requirement, a discipline-specific research requirement, and a senior project, as described below:

Breadth Requirement
• One semester of introductory psychology: PSYC 100 (Foundations of Psychology).
• PSYC 200 (Experimental Methods and Statistics), or Bryn Mawr PSYC 205.
• Six additional psychology courses beyond the introductory level, with at least one taken from each of the following groups:
  o social and personality psychology
  o biological psychology
  o cognition
  One of these courses must be a full-credit 300-level course (i.e., a seminar).
• See the Psychology Student Guidebook on the departmental website for details on which classes fulfill each of these groups.
• Two half-credit laboratory courses, which should be completed by the end of the junior year.
• One of the following senior thesis options:
  o two semesters of empirical senior research
  o a one semester non-empirical senior thesis and an additional psychology course beyond the introductory level.

We typically accept equivalent courses at Bryn Mawr or other institutions, with permission of the department, to fulfill major requirements. Most advanced courses offered in Bryn Mawr’s Psychology Department satisfy the advanced course requirement; however, not all of them fit into the above designated areas. See the Psychology Student Guidebook for a breakdown of BMC courses by area.

Research Requirement
The research requirement of the major trains students to think scientifically about psychological questions and to understand empirical approaches to the discipline. In addition, students obtain hands-on training in conducting behavioral research and answering original research questions.

General Research Training
Students take one semester of Experimental Methods and Statistics (PSYC 200). In this lecture and lab course, students will learn the principles of statistics and research design. In lab sessions, students put the statistical techniques that they learn during lectures into practice by designing and conducting several different kinds of data collection and analyses. This course is equivalent to PSYC 205 at Bryn Mawr; either PSYC 200 or BMC PSYC 205 will be offered in each semester. Either of these courses is a prerequisite for the following lab course requirement.

Discipline-Specific Research Training
Lab courses: Majors are required to take two half-credit 300-level lab courses offered in specialized areas of the major. These courses typically have PSYC 200 (Experimental Methods and Statistics) as a prerequisite.

Senior Research: By the time psychology majors reach the senior year, they are well prepared to carry out their senior research requirement. If students choose the year-long original empirical project, they will be involved in all phases of the research process; from formulating the questions,
designing the study, collecting and analyzing data, and presenting the research both orally and in writing. If students choose the one-semester non-empirical thesis, they will conduct an in-depth literature review of a given topic along with his or her own original synthesis and analysis of the issues.

MINOR REQUIREMENTS
The Haverford minor in psychology consists of six credits in psychology including: PSYC 100 (Foundations of Psychology), and five additional psychology courses beyond the introductory level, with at least one from two of the following groups:
• social and personality psychology
• biological psychology
• cognition.

See the Guidebook on the departmental website for details on which classes fulfill the requirements for each of these groups.

SENIOR PROJECT
The senior thesis experience is the capstone of the psychology major. In a typical thesis project, each student works closely with a faculty adviser and a small group of fellow seniors to carry out an original research study. A detailed description of this process is set out in the annual departmental Guide to the Psychology Senior Thesis Experience (available as PDF download or from the department chair).

In the course of this project, students apply skills and knowledge that they acquired during previous coursework in the psychology major. Thesis students do not merely learn about research that has already been done in psychology. Rather, they collect new data to address questions of interest. In this way, the thesis embodies the highest level of scholarship, in which students strive to contribute original knowledge to the field.

The thesis project is typically carried out over two semesters. In the first semester, students work to identify a conceptual question of interest, read and integrate background literature on that topic, and formulate a novel research plan. In the second semester, students carry out their proposed studies by collecting data, statistically analyzing the results of the study, and interpreting how the results relate to the study’s original hypothesis. Both semesters involve intensive writing, with detailed feedback from the faculty adviser.

An alternative option is a one-semester, non-empirical project that may be appropriate in some circumstances. In the one-semester project, a student conducts an in-depth literature review of a given topic along with his or her own original synthesis and analysis of the issues, and submits a paper that relates this work.

Senior Project Learning Goals
The senior thesis is envisioned as a capstone experience in which students are required to integrate the content knowledge and skills acquired in the earlier parts of our curriculum to a specific research question of interest. This, in turn, leads to increasingly sophisticated critical thinking skills that vary somewhat between one vs. two semester projects but can be summarized as follows:

For two semester projects, students are to:
• thoroughly review the extant literatures on the chosen topic and integrate those literatures into a cohesive rationale for an empirical project.
• develop and articulate testable hypotheses that are contextualized within the psychological literature using the scientific method of inquiry.
• design and conduct a rigorously conceived empirical study to test the stated hypotheses, using the methods that are normative within that discipline.
• analyze the empirical data that has been collected using the appropriate statistical techniques to test the stated hypotheses, and interpret those analyses with respect to the stated hypotheses.
• describe the results of the study using (a) correct statistical notation and (b) clear, concise, and accessible language.
• interpret the results and discuss how they relate to past research findings and/or theory on the chosen topic.
• identify the strengths and limitations of the current project.
• imagine directions for future research and applications based on the findings of the study conducted.
• work cohesively within a collaborative lab group (if conducting research in a group).
• communicate the study in the form of a written research report that is clear and sophisticated with regards to scholarly writing.
PSYCHOLOGY

- present the project orally to the department (faculty and peers) clearly and concisely.
- demonstrate mastery of the research topic and ownership of the empirical project.

For one-semester projects, students are to:
- thoroughly review the extant literatures on the chosen topic and integrate those literatures into a cohesive summary of past work.
- develop a novel theoretical framework or original application of the literature.
- communicate their work in the form of a written manuscript that is clear and sophisticated with regards to scholarly writing.
- present the project orally to the department (faculty and peers) clearly and concisely.
- demonstrate mastery of the research topic and ownership of the project.

Senior Project Assessment
Senior thesis work is assessed via two main components: the strength of the student’s paper and their contribution to the thesis project.
- The paper is evaluated on a number of criteria, including the thoroughness of the background literature review, its overall organization, accuracy, style, the student’s creative input, their ability to integrate different ideas in a novel and cogent fashion and finally, whether arguments and conclusions are persuasive given the issues at hand. Each student is expected to hand in an individual paper, even if he or she is working as part of a thesis group.
- The student’s degree of active involvement in the senior thesis experience is also assessed. During the fall semester, we consider the extent to which each student helps shape the study questions, design, and methodology of the project. During the spring, we consider the effort expended in the data collection and analysis phases of the study, and the contribution to project presentations and the final poster. Although the paper is weighted more heavily than the project contribution in arriving at the final course grade, it is possible to write an excellent paper but receive a significantly lower grade due to insufficient involvement with the project.

The primary research adviser and second reader will evaluate work based on the above criteria. Final grades are determined by a consensus process involving all department members, who will discuss each student’s performance and compare it with other students, both past and present, in order to arrive at a fair evaluation of your work.

For a two-semester thesis, the following criteria are used grading the first semester paper:

4.0 work for the first semester indicates a paper that has gone above and beyond a summary of the relevant literature in terms of scope, synthesis and integration. In addition to reflecting a nearly flawless paper that provides a coherent rationale for the study to be undertaken, this grade can also represent exceptional or original independent contributions, or individual effort that has gone beyond what is normally expected. A grade of 4.0 is not commonly awarded during the first semester.

3.7 work for the first semester indicates an extremely thorough, coherently organized, and generally well-written summary of the literature that identifies all of the seminal work that has led up to the current study. In addition, this grade reflects that the rationale for the current study is abundantly clear and the procedures to be used are well-described. There may be improvements that can be made to this paper, but there are no major areas of deficiency.

3.3 work for the first semester reflects a good to very good paper that needs improvement in one or more areas. The literature review may need to be more thorough, or the literature better summarized or integrated. The writing may be choppy or difficult to follow in some areas. There may be conceptual gaps that lead to an incomplete rationale for the study to be undertaken.

3.0 work for the first semester indicates that although the paper is good, there are several areas in which improvement can be made. For example, the literature review may have been too scant or poorly integrated. That is, the paper may have included summaries of appropriate studies without integrating how those studies support an important point or how they relate to the study that you are undertaking. The literature review may not have been thorough enough or may have relied too heavily on non-primary sources. In general, the reader may have had a difficult time understanding how the literature review culminates in the problem to be addressed in the current study.

REQUIREMENTS FOR HONORS
The department awards honors to majors who show...
exceptionally high attainment in their coursework and demonstrate work in senior research or senior thesis and related research courses that is of superior quality.

CONCENTRATIONS AND INTERDISCIPLINARY MINORS

Minor in Neuroscience
The minor in neuroscience is designed to allow students with any major to pursue interests in behavior and the nervous system across disciplines. The Psychology Department offers courses that contribute to this minor, and many of our majors elect to complete this minor.

Multidisciplinary Health Studies Minor
The goal of the Multidisciplinary Health Studies Minor is to give greater context to the issues facing health professionals on local, national, and global scales. The structure of this program is intentionally multidisciplinary, bringing scientists together with social science and humanities professors to guide students through the political, cultural and ethical questions that relate to health issues worldwide. The Psychology Department contributes several courses to the Multidisciplinary Health Studies Minor, which is popular with our majors.

Concentration in Education
The Bryn Mawr-Haverford Education Program invites students to study the discipline of education; explore the interdisciplinary field of educational studies; begin the path of teacher preparation for traditional classrooms; and participate in teaching experiences in a range of classroom and extra-classroom settings. Given its connection to psychology, some of our majors choose to concentrate in the Bryn Mawr-Haverford Education Program.

FACILITIES
A description of laboratories, equipment and other special facilities for this program is available on the departmental website.

FACULTY

Jennifer Lilgendahl
Chair and Associate Professor

Laura E. Been
Assistant Professor

Marilyn G. Boltz (on leave 2016-2017)
Professor

Rebecca J. Compton
Professor

Elizabeth Gordon
Visiting Assistant Professor

Mary Ellen Kelly
Visiting Assistant Professor

Benjamin Le
Associate Professor

Patrick Rich
Visiting Assistant Professor

Tom Wadden
Visiting Professor

Shu-wen Wang (on leave 2016-2017)
Assistant Professor

COURSES

PSYCH100 FOUNDATIONS OF PSYCHOLOGY
Gordon, Kelly, Rich, Lilgendahl
An introduction to the study of mind and behavior. Topics include biological, cognitive, personality, abnormal, and social psychology, as well as a general consideration of the empirical approach to the study of behavior. Anti-requisite: AP Psychology or IB Psychology credit, as noted on transcript. Social Science (SO)

PSYCH200 EXPERIMENTAL METHODS AND STATISTICS
Benjamin Le
Three hours lecture, one 90-minute lab/week plus time spent collecting data outside of scheduled lab hours. A general overview of the experimental method and its use in the psychological study of behavior, coupled with in-depth treatment of statistics as applied to psychology research. Lab exercises focus on designing experiments, collecting data, applying statistical methods (using a commercial data analysis software package), and presenting data through written assignments. Prerequisite(s): PSYC 100 or PSYC 105 or equivalent. Social Science (SO), Quantitative (QU)

PSYCH209 ABNORMAL PSYCHOLOGY
Elizabeth Gordon
PSYCHOLOGY

A review of major clinical and theoretical literature pertaining to the definition, etiology, and treatment of important forms of psychopathology. Prerequisite(s): Psychology 100 or consent. Crosslisted: HLTH; Social Science (SO)

PSYCH213 MEMORY AND COGNITION
Patrick Rich
An interdisciplinary study of ways in which memory and other cognitive processes manifest themselves in everyday life. Topics addressed include memory for faces and geographical locations; advertising; eyewitness testimony; autobiographical memory; metacognition; mood and memory; biological bases of cognition; human factors; decision-making; and cognitive diversity. Prerequisite(s): PSYC 100 or PSYC 105 or Psychology AP Score 4+ or consent; Social Science (SO)

PSYCH215 INTRODUCTION TO PERSONALITY PSYCHOLOGY
Jennifer Lilgendahl
An examination of the fundamental issues and questions addressed by personality psychology, including: What is personality? What are its underlying processes and mechanisms? How does personality develop and change over time? What constitutes a healthy personality? This course will explore these questions by considering evidence from several major approaches to personality (trait, psychodynamic, humanistic, and social-cognitive), and it will encourage students to develop a dynamic understanding of human personality that is situated within biological, social, and cultural contexts. Prerequisite(s): PSYC 100 or PSYC 105 or Psychology AP Score 4+ or consent; Social Science (SO)

PSYCH217 BEHAVIORAL NEUROSCIENCE
Laura Been, Mary Ellen Kelly
Interrelations between brain, behavior, and subjective experience. The course introduces students to physiological psychology through consideration of current knowledge about the mechanisms of mind and behavior. Prerequisite(s): an introductory course in PSYC or BIOL or consent; Crosslisted: PSYC and BIOL; Natural Science (NA)

PSYCH222 EVOLUTIONARY AND COMPARATIVE PSYCHOLOGY
Elizabeth Gordon
This course uses an evolutionary framework to examine the ultimate function of human and non-human animal behavior. Core topics include aggression, affiliation, sexuality, emotion, psychiatric illness, and culture. The class incorporates scholarly material from a variety of fields including developmental psychology, ethology, primatology, and human behavioral ecology. Prerequisite(s): PSYC 100 or PSYC 105 or Psychology AP Score 4+ or consent; Social Science (SO)

PSYCH224 SOCIAL PSYCHOLOGY
Benjamin Le
This course is designed as an in-depth exploration into the field of social psychology. Topics include impression formation, perceiving groups, social identity, attitudes/persuasion, social influence, group processes, aggression/altruism, and interpersonal attraction will be discussed. In addition to these specific topic areas, overarching themes and theoretical issues, within the field of social psychology will be emphasized throughout the course. Students will become familiar with the research that has contributed to the current social psychology knowledge base. Prerequisite(s): PSYC 100 or PSYC 105 or Psychology AP Score 4+ or consent; Social Science (SO)

PSYCH238 PSYCHOLOGY OF LANGUAGE
Staff
An interdisciplinary examination of linguistic theory, language evolution, and the psychological processes involved in using language. Topics include speech perception and production, processes of comprehension, language and the brain, language learning, language and thought, linguistic diversity, and conversational interaction. Prerequisite(s): PSYC 100 or PSYC 105 or Psychology AP Score 4+ or consent; Social Science (SO)

PSYCH242 CULTURAL PSYCHOLOGY
Staff
An examination of cultural variations in psychological process, covering development, personality, social behavior, neuroscience and genetics, and acculturation and multiculturalism. Prerequisite(s): PSYC 100; Social Science (SO)

PSYCH245 HEALTH PSYCHOLOGY
Thomas Wadden
Explores psychological processes that influence health, from a socio-structural perspective. Topics include: personality and disease, stress and illness, chronic health conditions, health promotion and...
disease prevention through behavior change, and
the importance of lifestyles and social environment.
Prerequisite(s): PSYC 100 or equivalent;
Crosslisted: HLTH; Social Science (SO)

PSYCH260 COGNITIVE NEUROSCIENCE
Rebecca Compton
An examination of the neural basis of higher mental
functions such as object recognition, attention,
memory, spatial functions, language, and decision-
making. Major themes include mind/brain
relationships, localization of function, and the
plasticity of the brain. Lottery preference to Psych
majors & Neuroscience minors. Prerequisite(s):
PSYC 100 or PSYC 105 or Psychology AP Score 4+
or consent; Natural Science (NA)

PSYCH302 PSYCHOLOGY OF JUDGMENT
AND DECISION MAKING
Staff
This course examines the psychological processes
involved in decision making from the perspective of
fast/slow cognitive processes and will present views
on what constitutes rational decision making.
Prerequisite(s): PSYC 213, 220, 224, 238, 260, or
280; Social Science (SO)

PSYCH304 ENVIRONMENTAL
PSYCHOLOGY & CONSERVATION
Benjamin Le
An examination of the links between the natural
environment and psychological mechanisms using
lenses of cognitive, social, and personality
psychology, with a focus on conservation behavior
and environmentalism. Prerequisite(s): at least one
of the following classes: PSYC 213, 215, 220, 224,
280, 303, 325, 335; OR PSYC 100 and at least one
ENVS course; OR instructor’s consent. In short,
there are two pathways to this course: (a) prior
coursework in cognitive, social, or personality
psychology or (b) Intro Psych and prior coursework
in ENVS; Social Science (SO)

PSYCH309 LABORATORY IN ABNORMAL
PSYCHOLOGY
Elizabeth Gordon
Training in research on emotion and personality,
including issues related to methodology and data
analysis such as the design of psychometrically
sound measures, various modes of data collection,
and the interpretation of data. Prerequisite(s): past
or concurrent enrollment in PSYC 209 (Abnormal
Psychology) or PSYC 215 (Introduction to
Personality Psychology) is required. Completion of

PSYC 200 (Stats/Methods) is strongly
recommended; however, concurrent enrollment
with PSYC 200 may be permissible with
instructor’s approval; Social Science (SO)

PSYCH313 LABORATORY IN MEMORY
AND COGNITION
Patrick Rich
This half-credit laboratory will focus on the
methods used to investigate the nature of
perception, memory, and other cognitive behaviors.
These various methodologies will be employed
within a set of empirical studies designed to
investigate particular topic areas within the field of
cognition. Prerequisite(s): past or concurrent
enrollment in PSYC 213 or PSYC 220 and
completion of PSYC 200 is required; Social Science
(SO)

PSYCH315 LABORATORY IN
PERSONALITY PSYCHOLOGY
Jennifer Lilgendahl
An overview of methods used to conduct research
on personality. Through lab activities and class
projects, students will learn about important
methodological topics within the study of
personality, including measurement, reliability and
validity, different modes of data collection (self-
report questionnaires, interviews and narratives,
observational and experimental approaches), and
how to analyze and interpret personality data.
Prerequisite(s): past or concurrent enrollment in
PSYC 215 (Personality Psych) is required.
Completion of Stats/Methods (PSYC 200 or PSYC
205) is strongly recommended; however,
concurrent enrollment with Stats/Methods may be
permissible with consent; Social Science (SO)

PSYCH316 EMBODIED COGNITION
Staff
Explores how cognitive processes such as memory,
decision-making, and language are influenced by
sensory, motor, and affective information from the
body. Prerequisite(s): PSYC 200 and another
course in cognition (e.g., PSYC 213, 220, 238, or
260), or by consent of the instructor; Social Science
(SO)

PSYCH317 LABORATORY IN BEHAVIORAL
NEUROSCIENCE
Laura Been
Prerequisite(s): past or concurrent enrollment in
PSYC 217 (Behavioral Neuro) is required.
Completion of Stats/Methods (PSYC 200 or PSYC
PSYCHOLOGY

PSYCH318 NEUROBIOLOGY OF DISEASE
Mary Ellen Kelly
A survey of disorders of the central nervous system, providing both a clinical perspective on the disease and research-based outlook focused on the pathophysiological mechanisms that underlie the disease state. Crosslisted: Health Studies; Prerequisite(s): PSYC 217, 260, or Bryn Mawr PSYC 218; Natural Science (NA)

PSYCH321 REVOLUTIONS IN NEUROSCIENCE
Laura Been, Mary Ellen Kelly
An examination of developments in neuroscience that produced paradigm shifts in the field. The goal is to understand the science and the historical context of these ‘revolutions.’ Each unit will culminate with a lecture from a current leader in Neuroscience. Prerequisite(s): PSYC 200, 217; Natural Science (NA)

PSYCH324 LABORATORY IN SOCIAL PSYCHOLOGY
Benjamin Le
Prerequisite(s): completion of Stats/Methods (PSYC 200 or PSYC 205) and past or concurrent enrollment in Social Psychology (PSYC 224 or PSYC 208) or Applied Social Psychology (PSYC 280) is required; Social Science (SO)

PSYCH325 THEORY AND RESEARCH IN DYADIC PROCESSES
Benjamin Le
This course is designed as an in-depth examination of the field of close relationships. The major theories of close relationship will be emphasized, including examinations of evolutionary, attachment, interdependence, and cognitive approaches. In addition, research related to topics such as attraction, relationship development and maintenance, relationships and health, infidelity, violence in intimate relationships, and jealousy will be explored, with methodical concerns discussed within the context of each topic. Prerequisite(s): PSYC 100 or PSYC 105; Social Science (SO)

PSYCH327 SUPERSIZED NATION: UNDERSTANDING AND MANAGING AMERICA’S OBESITY EPIDEMIC
Thomas Wadden
An examination of the causes and consequences of obesity at individual and societal levels. Focuses on mechanisms of body weight regulation along with the wide-scale changes in diet, eating habits, and physical activity that have contributed to the obesity epidemic. Prerequisite(s): PSYC 100 or PSYC 105 or Psychology AP Score 4+, and one topical 200-level Psychology course (i.e., not PSYC 200, 205); Crosslisted: HLTH; Social Science (SO)

PSYCH328 NEUROBIOLOGY OF SEXUAL BEHAVIOR
Laura Been
An examination of the neurobiology underlying sexual behavior. This seminar will focus on systems-level understanding of the neural regulation of both pre-copulatory and copulatory behavior, drawing from primary literature in invertebrate, rodent, and human model systems. Prerequisite(s): PSYC 100, PSYC 217; Natural Science (NA)

PSYCH335 SELF AND IDENTITY
Jennifer Lilgendahl
Who am I? How do I feel about myself? What is the story of my life? How people answer such questions and the implications of their answers, both over time and across situations in their lives, are the issues that are at the heart of this course on self and identity. Through a combination of lecture and discussion, we will examine the literature on self and identity from multiple disciplinary perspectives (biological, developmental, personality, social, and clinical) and apply scientific concepts to the analysis of socially important issues, current events, popular culture, and our own life experiences. Specific topics to be addressed include self and identity development in childhood and adolescence, self-esteem and its consequences, gender and self, culture and ethnic identity development, stigmatized selves and prejudice, and the connection between self/identity and mental health. Prerequisite(s): PSYC 210, 215, or 224, or Bryn Mawr PSYC 206 or 208; Enrollment Limit: 16; Div: I; Social Science (SO)

PSYCH337 STRESS AND COPING
Staff
An examination of theory and research on stress and coping processes, and their links with disease and mental health. Students will also learn and apply stress management techniques. Prerequisite(s): PSYC 100 or PSYC 105 or Psychology AP Score 4+, and one topical 200-level
PSYCHOLOGY

Psychology course (i.e., not PSYC 200, 205); Crosslisted: HLTH; Social Science (SO)

PSYCH342 LABORATORY IN CULTURAL PSYCHOLOGY
Staff
Provides hands-on research experience using qualitative and experimental methodologies to examine cultural psychology topics. Prerequisite(s): PSYC 200 and past or concurrent enrollment in PSYC 242; Social Science (SO)

PSYCH349 ANXIETY DISORDERS AND THEIR TREATMENT
Elizabeth Gordon
This seminar is in-depth examination of the etiology, maintenance, and treatment of mental disorders characterized by extreme and pervasive anxiety, including specific phobias, panic disorder, obsessive compulsive disorder, post-traumatic stress disorder, social anxiety disorder, and generalized anxiety disorder. Prerequisite(s): PSYC 209 (Abnormal Psychology); Social Science (SO)

PSYCH360 LABORATORY IN COGNITIVE NEUROSCIENCE
Rebecca Compton
An examination of methodologies used to study the neural basis of higher mental functions. Students will utilize both cognitive and electrophysiological (EEG, ERP) recording methods, and will examine methodological issues in hemodynamic neuroimaging and the study of patient populations. A half-credit course. Prerequisite(s): Stats/Methods (PSYC 200 or 205), or consent. The PSYC 260 lecture is not required for this lab; Natural Science (NA)

PSYCH390 SENIOR THESIS
Staff
Open to senior psychology majors doing a one semester thesis in current semester. Social Science (SO)

PSYCH391 SENIOR RESEARCH TUTORIAL IN COGNITION
Marilyn Boltz
Open to senior psychology majors. Social Science (SO)

PSYCH392 SENIOR RESEARCH TUTORIAL IN PERSONALITY
Jennifer Lilgendahl
Open to senior psychology majors. Social Science (SO)

PSYCH393 SENIOR RESEARCH TUTORIAL IN SOCIAL PSYCHOLOGY
Benjamin Le
Open to senior psychology majors. Social Science (SO)

PSYCH394 SENIOR RESEARCH TUTORIAL IN BEHAVIORAL NEUROSCIENCE
Mary Ellen Kelly, Laura Been
Open to senior psychology majors. Preference given to students minoring in Neuroscience. Natural Science (NA)

PSYCH395 SENIOR RESEARCH TUTORIAL IN COGNITIVE NEUROSCIENCE
Rebecca Compton
Open to senior psychology majors; Social Science (SO)

PSYCH396 SENIOR RESEARCH TUTORIAL IN CLINICAL PSYCHOLOGY
Elizabeth Gordon, Shu-wen Wang
Open to senior psychology majors; Social Science (SO)

PSYCH398 SENIOR RESEARCH TUTORIAL IN CULTURAL PSYCHOLOGY
Shu-wen Wang
Open to senior psychology majors; Social Science (SO)
RELIGION
haverford.edu/religion

A central mission of the Religion Department is to enable students to become critically informed, independent, and creative interpreters of some of the religious movements, sacred texts, ideas, and practices that have decisively shaped human experience. In their coursework, students develop skills in the critical analysis of the sacred texts, images, beliefs, and performances of various religions, including Judaism, Christianity, Islam, and Buddhism. The department's programs are designed to help students understand how religions develop and change and how religious texts, symbols, and rituals help constitute communities and cultures. Thus, the major in religion seeks to help students develop a coherent set of academic skills in the study of religion, while at the same time encouraging interdisciplinary work in the humanities and social sciences.

LEARNING GOALS
The Haverford religion major is unique in that it provides students with a comprehensive curriculum that includes carefully designed areas of concentrations, specialized coursework, supervised research, a lengthy written research product, and a departmental oral conversation with the entire department as the minimum requirements for fulfilling the major. Through coursework, senior thesis research, and the Tri-College Senior Colloquium with Swarthmore and Bryn Mawr Colleges, the department seeks to fulfill the following learning goals:

- Expose students to the central ideas, debates, scholars, methods, historiography, and approaches to the academic study of religion.
- Analyze key terms and categories in the study of religion, and utilize the diverse vocabularies deployed among a range of scholars in religion and related fields.
- Develop critical thinking, analytical writing, and sustained engagement in theory and method, together with the critical competence to engage sacred texts, images, ideas and practices.
- Cultivate the learning environment as an integrative and collaborative process.
- Expand intellectual opportunities for students to broaden and critically assess their worldviews.
- Encourage students to supplement their work in religion with elective languages (Arabic, Chinese, German, Greek, Hebrew, Hindi/Urdu, Japanese, Latin, Sanskrit, Yoruba).
- Foster interdisciplinary methods and perspectives in the study of religion, while continuing to model this through the curriculum.
- Prepare students for professional careers, for graduate studies in religion or related fields, and for leadership roles as reflective, critically-aware human beings.

Like other liberal arts majors, the religion major is meant to prepare students for a broad array of vocational possibilities. Religion majors typically find careers in law, public service (including both religious and secular organizations), medicine, business, ministry, and education. Religion majors have also pursued advanced graduate degrees in anthropology, history, political science, biology, Near Eastern studies, and religious studies.

MAJOR REQUIREMENTS
The major in religion is designed to help students develop a coherent set of academic skills and expertise in the study of religion, while at the same time encouraging interdisciplinary work in the humanities and social sciences. The major consists of 11 courses with the following requirements:

- Five courses within an area of concentration: each major is expected to fashion a coherent major program focused around work in one of three designated areas of concentration:
  - Religious Traditions in Cultural Context. The study of religious traditions and the textual, historical, sociological and cultural contexts in which they develop. Critical analysis of formative texts and issues that advance our notions of religious identities, origins, and ideas.
  - Religion, Literature, and Representation. The study of religion in relation to literary expressions and other forms of representation, such as performance, music, film, and the plastic arts.
  - Religion, Ethics, and Society. The exploration of larger social issues such as race, gender, and identity as they relate to religion and religious traditions. Examines how moral principles, cultural values, and
ethical conduct help to shape human societies.

The five courses within the area of concentration must include at least one department seminar at the 300 level. Where appropriate and relevant to the major’s program, up to two courses for the major may be drawn from outside the field of religion, subject to departmental approval.

- RELG 299 (Theoretical Perspectives in the Study of Religion).
- RELG 398A and 399B, a two-semester senior seminar and thesis program.
- Three additional half-year courses drawn from outside the major’s area of concentration.
- Junior Colloquium: an informal required gathering of the junior majors once each semester. Students should complete a worksheet in advance in consultation with their major adviser and bring copies of the completed worksheet to the meeting.
- At least six of each major’s 11 courses must be taken in the Haverford Religion Department.
- In some rare cases, students may petition the department for exceptions to the major requirements. Such petitions must be presented to the department for approval in advance.
- Final evaluation of the major program will consist of written work, including a thesis, and an oral examination completed in the context of the Senior Seminar (RELG 398A and 399B).

Advising for the major takes place in individual meetings between majors and faculty advisers and in a departmental colloquium held once each semester. At this colloquium, majors will present their proposed programs of study with particular attention to their work in the area of concentration. All majors should fill out and bring the Religion Major Worksheet, which can be found on the Religion Department website, to the colloquium.

MINOR REQUIREMENTS
The minor in religion, like the major, is designed to help students develop a coherent set of academic skills and expertise in the study of religion, while at the same time encouraging interdisciplinary work in the humanities and social sciences. The minor consists of six courses with the following requirements:

- Five courses within an area of concentration, with at least one at the 300 level:
  - Religious Traditions in Cultural Context. The study of religious traditions and the textual, historical, sociological and cultural contexts in which they develop. Critical analysis of formative texts and issues that advance our notions of religious identities, origins, and ideas.
  - Religion, Literature, and Representation. The study of religion in relation to literary expressions and other forms of representation, such as performance, music, film, and the plastic arts.
  - Religion, Ethics, and Society. The exploration of larger social issues such as race, gender, and identity as they relate to religion and religious traditions. Examines how moral principles, cultural values, and ethical conduct help to shape human societies.
  - RELG 299 (Theoretical Perspectives in the Study of Religion).
  - Junior Colloquium: an informal required gathering of the junior majors once each semester. Students should complete a worksheet, available on the Religion Department website, in advance in consultation with their major adviser and bring copies of the completed worksheet to the meeting.
  - All six courses must be taken in the Haverford Religion Department. In some rare cases, students may petition the department for exceptions to the minor requirements. Such petitions must be presented to the department for approval in advance.

SENIOR PROJECT
The senior thesis research project in the Department of Religion serves as a capstone experience for our majors. The work of RELG 398A and 399B, the required courses related to the senior research project in religion, consists of five stages: the formulation of a thesis proposal; presentation of the proposal; presentation of a portion of work in progress; the writing and submission of first and final drafts; oral discussion with department faculty.

Senior Project Learning Goals
The goals of the senior thesis process are to:
RELIGION

• further develop research skills and obtain a mastery of academic citation practices.
• provide students with an opportunity to pursue original research questions and to sharpen scholarly interests as one masters a particular field/argument.
• enhance written and verbal analysis through participation in the yearlong senior seminar with department faculty and students, weekly meetings with individual advisers, and the final oral presentation of the thesis to the department.
• nurture group cohesion as a department, through collaborative participation with fellow majors during the course of RELG 398a and 399b, concretely expressed by way of critical feedback to shared writing.
• build student confidence in the ability to see to fruition a rigorous project requiring prolonged periods of thought, writing, revising, and research.

Senior Project Assessment
You will receive a regular course grade for RELG 399b, which will appear on your transcript. This overall grade is comprised of three separate grades that evaluate:
• Your participation in the seminar process outlined above.
  o Participation in the seminar means: punctual attendance at all seminar events; careful preparation, especially the reading of your colleagues’ work in progress; and regular meetings with your adviser and submission of writing, according to the schedule mutually agreed upon.
• The quality of your thesis.
  o Your thesis will be read by all members of the department, who will mutually agree upon a grade for the written thesis. This grade will be averaged and factored into your final grade for the thesis and seminar after the oral.
• The effectiveness of your oral exam.
  o The effectiveness of your oral discussion will be factored into the final grade for the thesis and for the seminar as a whole. All members of the department will participate in your oral discussion, but your adviser will not participate in the process of the final evaluation and grading of your work.

REQUIREMENTS FOR HONORS
The department awards honors and high honors in religion on the basis of the quality of work in the major and on the completed thesis.

STUDY ABROAD
Students planning to study abroad must construct their programs in advance with the department. Students seeking religion credit for abroad courses must write a formal petition to the department upon their return and submit all relevant course materials. We advise students to petition courses that are within the designated area of concentration.

FACULTY
Kenneth Koltun-Fromm
Chair and Professor
Naomi Koltun-Fromm
Associate Professor
Anne McGuire
Kies Family Associate Professor in the Humanities
Molly Farneth
Assistant Professor
Terrance Wiley
Assistant Professor
Kameliya Atanasova
Visiting Assistant Professor

COURSES
RELGH101 INTRODUCTION TO THE STUDY OF RELIGION
Kenneth Koltun-Fromm
An introduction to the study of religion from three perspectives: overviews of several religions with classroom discussion of primary sources; cross-cultural features common to many religions; theories of religion and approaches to its study and interpretation. Humanities (HU)

RELGH104 RELIGION AND SOCIAL ETHICS
Molly Farneth
Introduces students to debates in Judaism and Christianity about the ethical significance of race, class, and gender in contemporary society. Topics will include racism, incarceration, poverty, gender-
RELIGION

based domination, and same-sex marriage.
Humanities (HU)

RELGH107 VOCABULARIES OF ISLAM  
Staff  
Provides students with an introduction to the foundational concepts of Islam, its religious institutions, and the diverse ways in which Muslims understand and practice their religion. We explore the vocabularies surrounding core issues of scripture, prophethood, law, ritual, theology, mysticism, literature, and art from the early period to the present. Humanities (HU)

RELGH110 SACRED TEXTS AND RELIGIOUS TRADITIONS  
Anne McGuire  
An introduction to religion through the close reading of selected sacred texts of various religious traditions in their historical, literary, philosophical, and religious contexts. Humanities (HU)

RELGH118 HEBREW BIBLE: LITERARY TEXT AND HISTORICAL CONTEXT  
Naomi Koltun-Fromm  
The Hebrew Bible, which is fundamental to both Judaism and Christianity, poses several challenges to modern readers. Who wrote it, when, and why? What was its significance then and now? How does one study the Bible from an academic point of view? Using literary, historical, theological, and archeological interpretive tools, this course will address these questions and introduce students to academic biblical studies. Humanities (HU)

RELGH122 INTRODUCTION TO THE NEW TESTAMENT  
Anne McGuire  
An introduction to the New Testament and early Christian literature. Special attention will be given to the Jewish origins of the Jesus movement, the development of traditions about Jesus in the earliest Christian communities, and the social contexts and functions of various texts. Readings will include non-canonical writings, in addition to the writings of the New Testament canon. Humanities (HU)

RELGH144 READING COMICS AND RELIGION  
Kenneth Koltun-Fromm  
The exploration of how notions of the religious arise in comics and graphic novels that visually depict narratives of and about the sacred. Reading comics is a visual practice, but it is also a study in religious expression, creative imagination, and critical interpretation. The course will engage the multi-textured layers of religious traditions through a reading of comics, and thereby integrate comics within the study of religion even as the very reading of comics challenges our notions of what counts as religion. This is a Tri-Co course and requires travel to Swarthmore. Lecture will alternate between Haverford and Swarthmore campuses. Humanities (HU)

RELGH150 SOUTH ASIAN RELIGIOUS CULTURES  
Staff  
An introductory course covering the variegated expressions of Hinduism, Buddhism, Jainism, Islam, and Sikhism in South Asia. Humanities (HU)

RELGH201 INTRODUCTION TO BUDDHISM  
Staff  
Focusing on the East Asian Buddhist tradition, the course examines Buddhist philosophy, doctrine and practice as textual traditions and as lived religion. Crosslisted: EALC; Humanities (HU)

RELGH215 THE LETTERS OF PAUL  
Anne McGuire  
Close reading of the 13 letters attributed to the apostle Paul and critical examination of the place of Paul in the development of early Christianity. Humanities (HU)

RELGH221 WOMEN AND GENDER IN EARLY CHRISTIANITY  
Anne McGuire  
An examination of the representation of women and gender in the New Testament and other early Christian literature, with attention to their historical and contemporary significance. A special focus will be the representation of female figures in early Christian literature, including Eve, Mary, Mary Magdalene, Thecia, Sophia, Perpetua, and others. Social Science (SO)

RELGH222 GNOSTICISM  
Anne McGuire  
The phenomenon of Gnosticism examined through close reading of primary sources, including the recently discovered texts of Nag Hammadi. Topics include the relation of Gnosticism to Greek, Jewish, and Christian thought; the variety of Gnostic schools and sects; gender imagery, mythology and
other issues in the interpretation of Gnostic texts. Humanities (HU)

**RELGH230 RELIGION AND BLACK FREEDOM STRUGGLE**
*Terrance Wiley*
This course will examine the background for and the key events, figures, philosophies, tactics, and consequences of the modern black freedom struggle in the United States. The period from 1955-1965 will receive special attention, but the roots of the freedom struggle and the effect on recent American political, social, and cultural history will also be considered. Humanities (HU)

**RELGH240 HISTORY AND PRINCIPLES OF QUAKERISM**
*Emma Lapsansky*
The development of Quakerism and its relationship to other religious movements and to political and social life, especially in America. The roots of the Society of Friends in 17th-century Britain, and the expansion of Quaker influences among Third World populations, particularly the Native American, Hispanic, east African, and Asian populations. Social Science (SO)

**RELGH248 THE QUR’AN**
*Staff*
Overview of the Qur’an, the scripture of Islam. Major themes include: orality, textuality, sanctity and material culture; revelation, translation, and inimitability; calligraphy, bookmaking and architecture, along with modes of scriptural exegesis as practiced over time by both Muslims and non-Muslims alike. Crosslisted: Comparative Literature; Humanities (HU)

**RELGH254 RAP AND RELIGION: RHYMES ABOUT GOD AND THE GOOD**
*Terrance Wiley*
We will explore the origins, existential, and ethical dimensions of Rhythm and Poetry (RAP) music. Giving attention to RAP songs written and produced by African American artists, including Tupac, Nas, Jay-Z, The Roots, and Lauryn Hill, Kanye West, we will analyze their work with an interest in understanding a) the conceptions of God and the good reflected in them, b) how these conceptions connect to and reflect African American social and cultural practices, and c) how the conceptions under consideration change over time. Humanities (HU)

**RELGH257 THE YOGA TRADITION IN SOUTH ASIA AND BEYOND**
*Staff*
Surveys the history of yoga practice and thought from the earliest textual discussions of yoga until the present day. Topics include the development of hatha yoga, Islam and yoga, and the influence of colonialism and nationalism on modern yoga. Humanities (HU)

**RELGH258 GENDER AND POWER IN MODERN JEWISH AND CHRISTIAN THOUGHT**
*Molly Farneth*
An exploration of gender in Judaism and Christianity through a study of feminist and queer thinkers who critique and contribute to these traditions. Topics include sex/gender difference, the gender of God, and the nature of divine authority. Prerequisite(s): familiarity with philosophical and/or theoretical inquiry is recommended. Humanities (HU)

**RELGH260 GETTING MEDIEVAL**
*Staff*
Explores literary and philosophical exchanges, alongside religious violence and persecution, amongst Jews, Christians, and Muslims in the late Antiquity and the Middle Ages. Humanities (HU)

**RELGH280 ETHICS AND THE GOOD LIFE**
*Molly Farneth*
This course examines how ethical theories, both secular and religious, inform notions of the good. We begin by tracing the impact of classical conceptions of justice and the good life through close readings from Plato, Aristotle and the tragedians together with medieval and modern accounts that draw heavily from these sources. We conclude by investigating how some contemporary Christian and Jewish ethical thinkers rely on, revise or subvert the perspectives of classical ethics. Humanities (HU)

**RELGH286 RELIGION AND THE AMERICAN PUBLIC LIFE**
*Molly Farneth*
This course examines the role of Christianity in shaping America’s religious identity(ies) and democratic imagination(s). The course will also examine whether, if at all, citizens are justified in retrieving their religious commitments in public debates. Humanities (HU)
RELIGH299 THEORETICAL PERSPECTIVES IN THE STUDY OF RELIGION
Kenneth Koltun-Fromm, Molly Farneth
An introduction to theories of the nature and function of religion from theological, philosophical, psychological, anthropological, and sociological perspectives. Readings may include: Schleiermacher, Marx, Nietzsche, Freud, Tylor, Durkheim, Weber, James, Otto, Benjamin, Eliade, Geertz, Foucault, Douglas, Smith, Berger, and Haraway. Humanities (HU)

RELGH305 SEMINAR IN RELIGION, ETHICS, AND SOCIETY: RELIGION, MAGIC & ORIENTALISM
Staff
The exploration of larger social issues such as race, gender, and identity as they relate to religion and religious traditions. Examines how moral principles, cultural values, and ethical conduct help to shape human societies. Topics and instructors change from year to year. This seminar invites students to attend to lived religious experience through ethnography. Taking an explicitly feminist/womanist approach, students will examine themes of epistemology, hermeneutics, narration, representation, embodiment, and empowerment. Reading and viewing contemporary ethnographic essays, texts and documentaries highlights mixed method approaches to research formation and the writing process. Through daily exercises and a final research project, students will directly participate in reflexive ethnography with a religious community of their choice. Prerequisite(s): one 100-level course in Religion, Anthropology, Sociology, Africana Studies, or Women’s Studies; Crosslisted: Africana Studies, Gender/Sex Studies; Humanities (HU)

RELGH306 OF MONSTERS AND MARVELS
Staff
From contemplating the cosmos to encountering the monstrous, this course explores the place of wonder in Islamic traditions through readings from the Qur'an, exegesis, prophetic traditions, popular literature, travel narratives, descriptive geography, philosophy and theology. Social Science (SO)

RELGH308 MYSTICAL LITERATURES OF ISLAM
Staff
Overview of the literary expressions of Islamic mysticism through the study of poetry, philosophy, hagiographies, and anecdotes. Topics include: unio mystica; symbol and structure; love and the erotic; body/gender; language and experience. Humanities (HU)

RELGH312 RITUAL AND THE BODY
Molly Farneth
An exploration of the meaning and function of ritual, and of the ways that rituals shape bodies, habits, and identities. Special attention will be given to the relationship between ritual and gender. Readings include Durkheim, Mauss, Bourdieu, Butler, and Mahmood. Prerequisite(s): at least one 200-level in the department or permission of the instructor; Humanities (HU)

RELGH319 BLACK QUEER SAINTS: SEX, GENDER, RACE, CLASS AND THE QUEST FOR LIBERATION
Terrance Wiley
Drawing on fiction, biography, critical theory, film, essays, and memoirs, participants will explore how certain African American artists, activists, and religionists have resisted, represented, and reinterpreted sex, sexuality, and gender norms in the context of capitalist, white supremacist, male supremacist, and heteronormative cultures. Crosslisted: Africana Studies; Prerequisite(s): one 200-level humanities course; Humanities (HU)

RELGH361 HINDUS AND MUSLIMS IN SOUTH ASIA
Staff
Examines engagements between Hindus and Muslims in South Asia from medieval to modern times, through an exploration of historical and literary texts, film and art, and theoretical writings on religious identities. Introduces historical case studies of Hindu-Muslim relations, the formation of religious identities, and the ways in which these identities have been constructed and contested in modern discourses on religion and politics. Humanities (HU)

RELGH398 SENIOR THESIS SEMINAR PART 1
Naomi Koltun-Fromm
A practical methodology course that prepares senior religion majors to write their senior theses. Prerequisite(s): open to senior religion majors only; Humanities (HU)
RELGH399 SENIOR SEMINAR AND THESIS
Naomi Koltun-Fromm
Prerequisite(s): open to senior religion majors only;
Humanities (HU)
The Departments of French and Francophone Studies, Italian, and Spanish cooperate in offering a major in Romance Languages that requires advanced work in at least two Romance languages and literatures. Additional work in a third language and literature is suggested.

MAJOR REQUIREMENTS
The requirements for the major are a minimum of nine courses, including the Senior Conference and/or Senior Essay, described below, in the first language and literature and six courses in the second language and literature, including the Senior Conference in French, if French is selected as second. Students should consult with their advisers no later than their sophomore year in order to select courses in the various departments that complement each other.

Haverford students intending to major in Romance Languages must have their major work plan approved by a Bryn Mawr College adviser.

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).

WRITING REQUIREMENT
Students must complete a writing requirement in the major. Students will work with their major advisors in order to identify either two writing attentive or one writing intensive course within their major plan of study.

FIRST LANGUAGE AND LITERATURE
French:
FREN 101-102 or 101-105; or 005-102 or 005-105. Four literature courses at the 200 level, including FREN 213. Advanced language course: FREN 260 (BMC) or 212 (HC). Two courses at the 300 level.

Italian:
ITAL 101, 102. Four courses at the 200 level. Three courses at the 300 level.

Spanish:
SPAN 110, SPAN 120. Four courses at the 200 level. Two courses at the 300 level.

SECOND LANGUAGE AND LITERATURE
French:
FREN 101-102 or 101-105; or 005-102 or 005-105. Two literature courses at the 200 level. FREN 260 (BMC) or 212 (HC). One course at the 300 level.

Italian:
ITAL 101, 102. Two literature courses at the 200 level. Two literature courses at the 300 level.

Spanish:
SPAN 110, SPAN 120. Two courses at the 200 level. Two courses at the 300 level.

In addition to the coursework described above, when the first language and literature is Spanish, majors in Romance Languages must enroll in SPAN 398 (Senior Seminar).* When French is chosen as either the first or second language, students must take the first semester Senior Conference in French (FREN 398) in addition to the coursework described above.** When Italian is chosen, students must take ITAL 398 and ITAL 399, offered in consultation with the department, in addition to the coursework described above in order to receive honors.*** An oral examination (following the current model in the various departments) may be given in one or both of the two languages, according to the student’s preference, and students follow the practice of their principal language as to written examination or thesis. Please note that 398 does not count as one of the two required 300-level courses.

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 20th century. Students should be able to read texts in two of the languages in the original.
* In order to receive honors, students whose first language is Spanish should have a minimum 3.7 GPA in Spanish and are required to write a senior essay (SPAN 399).

** For students whose first language is French, honors are awarded on the basis of performance in Senior Conference and on a successfully completed thesis (FREN 403) or senior essay, the latter completed in a third 300-level course in the second semester of senior year.

*** In order to receive honors, students whose first language is Italian are required to write a senior essay (ITAL 398 and ITAL 399).

FACULTY

Brigitte Mahuzier  
Chair and Professor of French

María Cristina Quintero  
Chair and Professor of Spanish, Co-Director of Comparative Literature and Co-Director of Romance Languages

Roberta Ricci  
Chair and Associate Professor of Italian
The Russian major is a multidisciplinary program designed to provide students with a broad understanding of Russian culture and the Russophone world. The major places a strong emphasis on the development of functional proficiency in the Russian language. Language study is combined with a specific area of concentration to be selected from the fields of Russian literature, history, economics, language/linguistics, or area studies.

**MAJOR REQUIREMENTS**
A total of 10 courses is required to complete the major: two in Russian language at the 200 level or above; four in the area of concentration, two at the 200 level and two at the 300 level or above (for the concentration in area studies, the four courses must be in four different fields); three in Russian fields outside the area of concentration; and either RUSS 398 (Senior Essay) or RUSS 399 (Senior Conference).

Russian majors have the option of fulfilling the College’s writing requirement through Writing Attentive (WA) courses either through upper-level Russian language courses, where the focus is on writing in Russian, or through 200-level courses on Russian literature (in translation), culture or film, where the focus is on writing in English. Majors also have the option of completing one WA course in Russian and one WA course in English. Majors are encouraged to pursue advanced language study in Russia in summer, semester, or year-long academic programs. Majors may also take advantage of intensive immersion language courses offered during the summer by the Bryn Mawr Russian Language Institute. As part of the requirement for RUSS 398/399, all Russian majors take senior comprehensive examinations that cover the area of concentration and Russian language competence.

**MINOR REQUIREMENTS**
Students wishing to minor in Russian must complete six units at the 100 level or above, two of which must be in the Russian language.

**REQUIREMENTS FOR HONORS**
All Russian majors are considered for departmental honors at the end of their senior year. The awarding of honors is based on a student’s overall academic record and all work done in the major.

**FACULTY**

**Elizabeth Allen**
Professor of Russian and Comparative Literature

**Dan Davidson** *(on leave spring 2017)*
Professor of Russian on the Myra T. Cooley Lectureship in Russian and Director of the Russian Language Institute

**Timothy Harte**
Chair and Associate Professor of Russian

**Marina Rojavin**
Lecturer

**Jesse Stavis**
Instructor

**Irina Walsh**
Lecturer in Russian

**COURSES**

**RUSS B001 ELEMENTARY RUSSIAN INTENSIVE**

*Dan Davidson, Jesse Stavis*
Study of basic grammar and syntax. Fundamental skills in speaking, reading, writing, and oral comprehension are developed. Eight hours a week including conversation sections and language laboratory work. Approach: course does not meet an Approach. (Fall 2016)

**RUSS B002 ELEMENTARY RUSSIAN INTENSIVE**

*Dan Davidson, Jesse Stavis*
Study of basic grammar and syntax. Fundamental skills in speaking, reading, writing, and oral comprehension are developed. Eight hours a week including conversation sections and language laboratory work. Approach: course does not meet an Approach. (Spring 2017)
RUSS B101 INTERMEDIATE RUSSIAN

Jesse Stavis

Continuing development of fundamental skills with emphasis on vocabulary expansion in speaking and writing. Readings in Russian classics and contemporary works. Five hours a week. Approach: course does not meet an Approach. (Fall 2016)

RUSS B102 INTERMEDIATE RUSSIAN

Jesse Stavis

Continuing development of fundamental skills with emphasis on vocabulary expansion in speaking and writing. Readings in Russian classics and contemporary works. Five hours a week. Approach: course does not meet an Approach. (Spring 2017)

RUSS B201 ADVANCED RUSSIAN

Irina Walsh

Intensive practice in speaking and writing skills using a variety of modern texts and contemporary films and television. Emphasis on self-expression and a deeper understanding of grammar and syntax. Five hours a week. Approach: course does not meet an Approach. (Fall 2016)

RUSS B202 ADVANCED RUSSIAN

Irina Walsh

Intensive practice in speaking and writing skills using a variety of modern texts and contemporary films and television. Emphasis on self-expression and a deeper understanding of grammar and syntax. Five hours a week. Approach: course does not meet an Approach. (Spring 2017)

RUSS B215 RUSSIAN AVANT-GARDE ART, LITERATURE AND FILM

Staff

This course focuses on Russian avant-garde painting, literature and cinema at the start of the 20th century. Moving from Imperial Russian art to Stalinist aesthetics, we explore the rise of non-objective painting (Malevich, Kandinsky, etc.), ground-breaking literature (Bely, Mayakovsky), and revolutionary cinema (Vertov, Eisenstein). No knowledge of Russian required. Approach: Critical Interpretation (CI). Counts towards: Film Studies. (Not Offered 2016-2017)

RUSS B217 THE CINEMA OF ANDREI TARKOVSKY

Staff

This course will probe the cinematic oeuvre of the great Soviet filmmaker Andrei Tarkovsky, who produced some of the most compelling, significant film work of the 20th century. Looking at not only Tarkovsky’s films but also those films that influenced his work, we will explore the aesthetics, philosophy, and ideological pressure underlying Tarkovsky’s unique brand of cinema. Approach: Critical Interpretation (CI). Counts towards: Film Studies. (Not Offered 2016-2017)

RUSS B221 THE SERIOUS PLAY OF PUSHKIN AND GOGOL

Staff

This course explores major contributions to the modern Russian literary tradition by its two founding fathers, Aleksander Pushkin and Nikolai Gogol. Comparing short stories, plays, novels, and letters written by these pioneering artists, the course addresses Pushkin’s and Gogol’s shared concerns about human freedom, individual will, social injustice, and artistic autonomy, which each author expressed through his own distinctive filter of humor and playfulness. No knowledge of Russian is required. Approach: Critical Interpretation (CI). Major Writing Requirement: Writing Attentive (Not Offered 2016-2017)

RUSS B223 RUSSIAN AND EAST EUROPEAN FOLKLORE

Staff

This interdisciplinary course introduces students to major issues in Russian and East European folklore including epic tales, fairy tales, calendar and life-cycle rituals, and folk beliefs. The course also presents different theoretical approaches to the interpretation of folk texts as well as emphasizes the influence of folklore on literature, music, and art. No knowledge of Russian is required. Approach: Cross-Cultural Analysis (CC); Critical Interpretation (CI). (Not Offered 2016-2017)

RUSS B235 THE SOCIAL DYNAMICS OF RUSSIAN

Dan Davidson, Irina Walsh

An examination of the social factors that influence the language of Russian conversational speech, including contemporary Russian media (films, television, and the Internet). Basic social strategies
RUSSIAN AT BRYN MAWR COLLEGE

that structure a conversation are studied, as well as the implications of gender and education on the form and style of discourse. Prerequisite(s): RUSS B201, RUSS 102 also required if taken concurrently with RUSS 201. Approach: Cross-Cultural Analysis (CC). (Fall 2016)

RUSS B238 TOPICS: THE HISTORY OF CINEMA 1895 TO 1945
Timothy Harte
This is a topics course. Course content varies. Approach: Inquiry into the Past (IP). Major Writing Requirement: Writing Attentive. Counts towards: Film Studies
Spring 2017: Silent Film: From U.S. to Soviet Russia & Beyond. This course will explore cinema from its earliest, most primitive beginnings up to the end of the silent era. While the course will focus on a variety of historical and theoretical aspects of cinema, the primary aim is to look at films analytically. Emphasis will be on the various artistic methods that went into the direction and production of a variety of celebrated silent films from Russia, Germany, the U.S. and elsewhere. These films will be considered in many contexts: artistic, historical, social, and even philosophical, so that students can develop a deeper understanding of silent cinema’s rapid evolution.

RUSS B254 RUSSIAN CULTURE AND CIVILIZATION
Staff
A history of Russian culture—its ideas, its value and belief systems—from the origins to the present that integrates the examination of works of literature, art, and music. Approach: Cross-Cultural Analysis (CC); Inquiry into the Past (IP). Major Writing Requirement: Writing Attentive. (Not Offered 2016-2017)

RUSS B258 SOVIET AND EASTERN EUROPEAN CINEMA OF THE 1960S
Staff
This course examines 1960s Soviet and Eastern European “New Wave” cinema, which won worldwide acclaim through its treatment of war, gender, and aesthetics. Films from Czechoslovakia, Hungary, Poland, Russia, and Yugoslavia will be viewed and analyzed, accompanied by readings on film history and theory. All films shown with subtitles; no knowledge of Russian or previous study of film required. Approach: Cross-Cultural Analysis (CC); Critical Interpretation (CI) Major Writing Requirement: Writing Attentive Counts towards: Film Studies. (Not Offered 2016-2017)

RUSS B271 CHEKHOV: HIS SHORT STORIES AND PLAYS IN TRANSLATION
Timothy Harte
A study of the themes, structure and style of Chekhov’s major short stories and plays. The course will also explore the significance of Chekhov’s prose and drama in the English-speaking world, where this masterful Russian writer is the most staged playwright after Shakespeare. All readings and lectures in English. Approach: Critical Interpretation (CI); Inquiry into the Past (IP). Major Writing Requirement: Writing Attentive. (Fall 2016)

RUSS B277 NABOKOV IN TRANSLATION
Staff
A study of Vladimir Nabokov’s writings in various genres, focusing on his fiction and autobiographical works. The continuity between Nabokov’s Russian and English works is considered in the context of the Russian and Western literary traditions. All readings and lectures in English. Approach: Critical Interpretation (CI). (Not Offered 2016-2017)

RUSS B365 RUSSIAN AND SOVIET FILM CULTURE
Marina Rojavin
This seminar explores the cultural and theoretical trends that have shaped Russian and Soviet cinema from the silent era to the present day. The focus will be on Russia’s films and film theory, with discussion of the aesthetic, ideological, and historical issues underscoring Russia’s cinematic culture. Taught in Russian. No previous study of cinema required, although RUSS 201 or the equivalent is required. (Fall 2016)

RUSS B375 LANGUAGE AND IDENTITY POLITICS OF LANGUAGE IN EUROPE AND EURASIA
Staff
A brief general introduction to the study of language policy and planning with special emphasis on the Russophone world, the newly independent states of the former Soviet Union. Surveys current theoretical approaches to bilingualism and language shift. Analyzes Soviet language and
RUSS B380 SEMINAR IN RUSSIAN STUDIES  
*Dan Davidson, Irina Walsh*

An examination of a focused topic in Russian literature such as a particular author, genre, theme, or decade. Introduces students to close reading and detailed critical analysis of Russian literature in the original language. Readings in Russian. Some discussions and lectures in Russian. Prerequisite(s): RUSS 102 and one 200-level Russian literature course. (Spring 2017)

RUSS B390 RUSSIAN FOR PRE-PROFESSIONALS I  
*Marina Rojavin*

This capstone to the overall language course sequence is designed to develop linguistic and cultural proficiency in Russian to the advanced level or higher, preparing students to carry out academic study or research in Russian in a professional field. Suggested Preparation: study abroad in Russia for at least one summer, preferably one semester; and/or certified proficiency levels of ‘advanced-low’ or ‘advanced-mid’ in two skills, one of which must be oral proficiency. Major Writing Requirement: Writing Attentive. (Fall 2016)

RUSS B391 RUSSIAN FOR PRE-PROFESSIONALS II  
*Marina Rojavin*

Second part of year long capstone language sequence designed to develop linguistic and cultural proficiency to the “advanced level,” preparing students to carry out advanced academic study or research in Russian in a professional field. Prerequisite(s): RUSS 390 or equivalent. Major Writing Requirement: Writing Attentive (Spring 2017)

RUSS B398 SENIOR ESSAY  
*Timothy Harte, Irina Walsh*

Independent research project designed and conducted under the supervision of a departmental faculty member. May be undertaken in either fall or spring semester of senior year. (Spring 2017)

RUSS B403 SUPERVISED WORK  
*Staff*

(Fall 2016, Spring 2017)

RUSS B701 SUPERVISED WORK  
*Dan Davidson*

(Fall 2016)
CONCENTRATION IN SCIENTIFIC COMPUTING
haverford.edu/scientific-computing

Many disciplines in the natural and social sciences include a significant sub-discipline that is explicitly computational. Examples include astronomy, biology, chemistry, economics, and physics. In some fields, such as biology, the use of computation has become so widespread that basic literacy in computation is increasingly important and may soon be required.

The Concentration in Scientific Computing gives students an opportunity to develop a basic facility with the tools and concepts involved in applying computation to a scientific problem, and to explore the specific computational aspects of their own major disciplines.

LEARNING GOALS
As students progress through the curriculum, they will:
• learn to read, write, and debug code in at least one programming language, using idioms appropriate to the major field of study.
• apply computational reasoning to a broad set of problems.
• learn tools and concepts required to computationally approach scientific problems within the discipline of their major.
• appreciate trade-offs and limitations of computational approaches to problem solving (e.g., accuracy vs. computation time, approximations needed to make real-world problems calculable, numerical errors inherent to computations themselves).

CURRICULUM
Three of the six courses required for the concentration focus on general issues of computing (see Requirements A and B below): two of these serve as an introduction to computer science and programming, and the third focuses on the use of computation within a specific scientific discipline. Students then choose the remaining three courses from a list of electives (see Requirement C), using at least two to connect their computational work with their major (recall that 2-3 courses for a concentration must also count toward the student’s major). Finally, the student must also complete a project-based experience, possibly during the completion of one of the courses (Requirement D).

Students majoring in astronomy, biology, chemistry, economics, mathematics, and physics should consult the relevant sections of the Catalog for information about the relationship of this concentration to their courses of study.

Given the abundance of math, physics, chemistry, and computer science courses listed under Requirements B and C, students with these majors should have no problem choosing courses (though one of the coordinators of the concentration should be consulted during this selection). Example “Requirement C” tracks for majors in astronomy, biology, chemistry, and economics are available, but a student may of course choose other courses (in consultation with one of the coordinators).

REQUIREMENTS
The concentration consists of six credits that fall into four categories of requirements, denoted (A), (B), (C), (D). These are merely categorical labels, and we have no intention of expressing a time-ordered sequence. In fact, we anticipate that many students in fields other than computer science will take at least one course in the (B) and/or (C) requirements before discovering an interest in the concentration, and then take courses to satisfy the other requirements afterward.

The six courses should be selected from the following list and approved by the student’s concentration adviser. Of the six credits required for the concentration, no more than two of the courses in (B) or (C) may count towards both the concentration and the student’s major. (Also, per College rules, students may not count among the 32 course credits required for graduation any course that substantially repeats the content of another course already completed, even though the course numbers may suggest an advancing sequence. For example, both introductory computer science courses, CMSC 105 and CMSC 110, cannot be taken for credit.)

Haverford College Catalog 2016-2017
CONCENTRATION IN SCIENTIFIC COMPUTING

Categories of Requirements

Category A: Year-long introduction to computer science and programming, that may consist of (CMSC 105 and CMSC 106) or (CMSC 110 and CMSC 206) or (CMSC 107).

Category B: One course involving regular programming assignments and becoming familiar with discipline-specific programming idioms, chosen from the following list:

- ASTR 341: Advanced Topics in Astrophysics: Observational Astronomy
- ASTR 342: Advanced Topics in Astrophysics: Modern Galactic Astronomy
- ASTR 344: Advanced Topics in Astrophysics: Computational Astrophysics
- CMSC 187: Scientific Computing - Discrete Problems
- CMSC 207: Data Science and Visualization
- CMSC 250: Computational Models in the Sciences
- CMSC 287: High Performance Scientific Computing
- CHEM 304: Statistical Thermodynamics and Kinetics
- CHEM 305: Quantum Chemistry
- MATH 222: Scientific Computing - Continuous Problems
- PHYS 304: Computational Physics

Category C: Three credits worth of electives in which real-world phenomena are investigated using computation, at a significant level as determined by the standards of that discipline. At least one of these three credits must come from a 300-level course or courses (not senior research). A normative route in the sciences would be for a student to take two taught courses on this list and apply one credit of senior research to this requirement. Alternatively, students whose senior work is not computational but who still wish to pursue the concentration can complete three taught courses from this list. These courses should be drawn from the following list:

- Any of the courses on the (B) list above
- BIOL 300: Superlab
- BIOL 301: Advanced Genetic Analysis (1/2 credit)
- BIOL 354: Computational Genomics (1/2 credit)
- BIOL 357: Protein Design (1/2 credit)
- CHEM 322: Advanced Physical Chemistry: Mathematical Modeling & Natural Processes
- CMSC 120: Visualizing Information
- CMSC 225: Fundamentals of Databases
- CMSC 235: Information and Coding Theory
- CMSC 250: Computational Models in the Sciences
- ECON 032: Operations Research
- MATH 204/210: Differential Equations, in years in which it includes significant computer lab exercises involving modeling and/or simulation
- MATH 210: Linear Optimization and Game Theory
- MATH 286: Applied Multivariate Statistical Analysis
- MATH 394: Advanced Topics in Computer Science and Discrete Math
- MATH 397: Advanced Topics in Applied Math
- MATH 056: Modeling
- PHYS 306: Mathematical Methods in the Physical Sciences
- PHYS 316: Electronic Instrumentation and Computers
- PHYS 026: Chaos, Fractals, Complexity, Self-Organization, and Emergence
- Up to 1 credit of senior research (e.g., ASTR 404, BIOL 40x, CHEM 361, CMSC 480, MATH 399, PHYS 41x), if the project has a significant focus on scientific computing

Category D: Some part of completion of the concentration must include a project-based experience in which computation is applied to investigate a real-world phenomenon, e.g.,

- A senior thesis/experience with significant scientific computing component, or
- A summer research experience, or
- A multi-week project for a course that may (or may not) be one of the three electives that fulfill requirement (C)

CONCENTRATION COORDINATORS AND DEPARTMENTAL REPRESENTATIVES

Joshua Schrier
Concentration Coordinator and Chemistry representative; Associate Professor of Chemistry

Robert Manning
Mathematics representative, William H. and Johanna A. Harris Professor of
CONCENTRATION IN SCIENTIFIC COMPUTING

Computational Science

Philip Meneely
Biology representative, Professor of Biology
The Sociology Department helps students learn how to “do sociology” by exposing them to exemplars of what sociology has been and by asking them to study micro and macro aspects of the social world. We believe that there are a variety of legitimate ways to “do sociology,” and we do not seek to privilege any one of them. Our individual courses construct arguments for students to consider, develop, and argue against, and they provide the analytical and methodological training students need to formulate theoretical arguments and to evaluate those arguments empirically. We want an active engagement from our students as they find their own points-of-view within the discipline, and we expect theoretical and methodological rigor and sophistication within the approaches they adopt.

The department is small, which allows students to work with a small number of people in depth and to develop a textured way of approaching the social world. Our goals are to facilitate the emergence of each student’s own arguments, allow them to develop their own intellectual agenda, and enable them to approach new, unfamiliar problems (both academic and social) with helpful ideas about their resolution.

Our graduates go on to a wide variety of careers. The analytic, statistical, and methodological skills acquired over the course of studies in sociology are an asset in sectors as different as government, service, education, and business. Our department has an excellent record of placing students in the top graduate programs in sociology.

LEARNING GOALS
We want our students to learn how to “do sociology.” Students who take our courses read exemplars of sociological research. The goal is not a mastery of theory and methods for their own sake, but the ability to think theoretically and to evaluate arguments empirically and systematically using the methodology best suited to the argument. The sociology they read in their courses is a means and not an end; these texts should be understood as a set of exemplifications of how sociology might be done. In addition, students are able to improve their writing skills through completing course assignments.

We expect that the completion of a major will enable them to do sociology autonomously, in a way that prepares them for careers in applied settings, different professions such as law or public health, and for graduate training at the discipline’s best departments.

CURRICULUM
To facilitate our student’s ability to accomplish the goal of “doing sociology,” each major enrolls in the two-semester Foundations in Social Theory seminar, where we provide a fundamental grounding in social theory. Our upper-division courses build on this foundation, specifying and developing the theory to address questions in substantive areas of the discipline. Ideally, the theory allows students to construct theoretically-insightful arguments about substantive areas not covered in our curriculum. We teach seminars in both quantitative methods and qualitative methods to enable students to acquire a wide range of research skills for addressing problems of interest to them.

MAJOR REQUIREMENTS
A total of at least eleven courses, including:
• SOCL 155A and 155B (two semesters of Foundations in Social Theory)
• SOCL 215A, ECON 203, or the equivalent (Quantitative Methods, statistics)
• SOCL 450A and 450B (senior thesis)
• Six additional courses in sociology.

Students should consult their adviser about the possibility of receiving major credit for sociology courses taken at other campuses, including Bryn Mawr, Swarthmore and the University of Pennsylvania. Normally, the department will grant such credit if the courses enhance the integrity of a program grounded in the Haverford curriculum.

MINOR REQUIREMENTS
A total of at least six courses, including:
• SOCL 155A and 155B (Foundations in Social Theory)
• SOCL 215A (Quantitative Methods, or the equivalent)
• At least three 200- and/or 300-level courses in the department.
Students may take no more than four courses with a single professor.

**SENIOR PROJECT**
Sociology majors must complete a senior thesis, which is a year-long research project. The thesis serves as a culmination of the department’s aims of having students “do sociology.” In preparation they will have taken many classes inside the department that have provided them with opportunities to understand critical theoretical debates in the literature and have introduced them to different research traditions within the discipline. These courses also provide the opportunity to examine shorter theoretical topics, as well as write shorter research papers. The senior thesis is the longest and most involved writing assignment, and as such presents students with an opportunity to complete a real research project.

The senior thesis consists of two courses, 450A and 450B. Each senior is required to formulate a research topic that addresses a theoretical problem that they evaluate through empirical investigations. Each senior selects and works regularly with a primary adviser, with whom they meet weekly, as part of a group and/or individually. They spend the fall semester refining their argument, working to construct an answerable research question that is generally based on concerns that have come from their previous coursework. Each senior also presents his/her work periodically to all department faculty and seniors. Students present their research problem, a report on how the work is developing, and a draft of a theoretical or an empirical section. This process provides the opportunity for students to develop their oral presentation skills. The process also encourages and facilitates the ability of students to work with more than one member of the faculty on their theses. These meetings also serve to foster cooperation and support among the students.

The spring semester is spent further backing up their argument with their empirical work, and revising the thesis into a completed form. Students continue to meet with their primary thesis advisers, collectively and/or individually every week. They continue to make oral presentations to the faculty and seniors in the department, culminating in a final public presentation. The final, formal presentation of the theses before the department, including junior and newly declared sophomore majors, as well as invited guests.

**Senior Project Learning Goals**
The goals of the senior thesis process are to:
- provide students with an opportunity to pursue an original research question.
- allow them to develop arguments that are longer in length and more empirically supported than in research papers submitted in lower-level courses in the major.
- further develop research skills, including literature review and empirical analysis.
- improve their writing and oral presentation skills.

In regular classes faculty specify the nature of the work to be undertaken. Here students assume responsibility for their own work. They define their own research agenda autonomously—even if assisted by their advisers, and other faculty in (and outside of) the department—and they are expected to create a masterwork that manifests their ability to “do sociology.”

**Senior Project Assessment**
Each student’s work is then evaluated by all faculty in the department. Evaluation is based on whether the thesis:
- formulates a research problem in theoretical terms.
- makes a cogent, sophisticated theoretical argument.
- masters literature relevant to the main argument, and contextualizes the argument within it.
- completes systematic empirical work appropriate to the research question
- is presented well, in both oral and written formats.

**CONCENTRATIONS**
The department contributes to multiple concentrations, including Peace, Justice, and Human Rights, Middle East and Islamic Studies, African and Africana Studies, and Gender and Sexuality Studies.

**RESEARCH AND OTHER OPPORTUNITIES**
There are plenty of resources on campus to fund student research projects, reading seminars, and
other initiatives. Our majors receive support from both the Center for Peace and Global Citizenship (haverford.edu/CPGC) and the John B. Hurlford ’60 Center for the Arts and Humanities (haverford.edu/HCAH). The Eastern Sociological Society invites undergraduates to present their work at their annual meeting. We especially encourage seniors to present their thesis work in progress to get feedback, as well as meet people they might want to work with in graduate school.

**FACULTY**

Mark Gould  
Professor

Elise Herrala  
Visiting Assistant Professor

Matthew McKeever  
Chair and Professor

**COURSES**

SOCLH140 THE SOCIOLOGICAL IMAGINATION  
*Staff*  
This course introduces students to college-level inquiry by way of three fundamental social issues which have direct relevance to our own everyday lives: Medicine and Health, Work and the Economy, and Criminal Justice. Social Science (SO)

SOCLH155 FOUNDATIONS IN SOCIAL THEORY  
*Mark Gould, Matthew McKeever*  
This seminar provides an introduction to sociology, to the doing of sociology, through an examination of selected major works in the discipline. We use these works as exemplifications of how we might do social theory, not as texts to be criticized. This course is autonomous from Sociology 155a; either semester in the sequence may be taken alone, and either semester may be taken first. Together, the two mesh into a systematically-constructed whole, leading to a more coherent perspective on the accomplishments and future tasks of sociology than either provides alone. Section 001 with Gould will highlight works by Durkheim and Freud (supplemented by a bit of Parsons, Mead, etc.). Section 002 with McKeever will highlight works by Durkheim, Mead, and Schutz. Social Science (SO)

SOCLH204 MEDICAL SOCIOLOGY  
*Staff*  
This course will cover how definitions of health and illness are socially constructed, vary by culture, and change over time. The topics in this course include mental health, health care reform, market-based approaches to health, obesity and eating, sports injuries, sexual dysfunction, and the new MCAT section in social science, among others. Crosslisted: Health Studies; Social Science (SO)

SOCLH205 PUNISHMENT AND SOCIAL ORDER  
*Staff*  
With over two million people behind bars, the United States has more people incarcerated than any other nation in the world. From an interdisciplinary perspective, this course will examine the social causes and consequences of our society’s punitive arrangement. Social Science (SO)

SOCLH206 SOCIOLOGY OF SPORTS  
*Staff*  
This course examines sports from different perspectives (participation, fandom, and financial investment). Subjects include women in sports, globalization, corporations, performance enhancement techniques, increased specialization of scholar-athletes, the NCAA, non-traditional and “extreme” sports, racism and sexism, and the association between sports and violence. Social Science (SO)

SOCLH215 QUANTITATIVE METHODS  
*Matthew McKeever*  
An introduction to the use of statistics in sociological research. Students are required to write a research proposal. Prerequisite(s): SOCL 155a or b or permission of instructor; Social Science (SO)

SOCLH233 TOPICS IN SOCIOLOGY: CONTEMPORARY RESEARCH  
*Matthew McKeever*  
Social Science (SO)

SOCLH235 CLASS, RACE, AND EDUCATION  
*Mark Gould*  
An examination of the effects of class and race on educational and occupational outcomes, emphasizing the contemporary United States. Social Science (SO)
SOCLH237 TOPICS IN HISTORICAL SOCIOLOGY: RELIGIOUS MOVEMENTS IN ISLAM (CHRISTIANITY AND JUDAISM)
Mark Gould
Social Science (SO)

SOCLH270 MEASURING EDUCATION
Matthew McKeever
This course explores contemporary political movements to measure learning outcomes in educational institutions. It covers such topics as NCLB legislation, standardized testing for college admissions, assessment of college education, and development of online learning tools. Social Science (SO)

SOCLH297 ECONOMIC SOCIOLOGY
Mark Gould
The sociological analysis of economic systems and the sociological reconstruction of microeconomic theory. Social Science (SO)

SOCLH298 LAW AND SOCIOLOGY
Mark Gould
An examination of the jurisprudential consequences derived from the sociological reconstruction of micro-economic and philosophical theories. Social Science (SO)

SOCLH306 SEEKING PEACE WITHIN WAR: MILITARY MEDICINE AND THE SEARCH FOR HEALTHY VIOLENCE
Staff
As an institution, the military trains individuals to conduct violence while remaining, at least ideally, healthy. From the standpoint of the institution, a successful soldier is someone who is an expert in the application of violence at the same time that he or she is mentally and physically fit. With a close look at warfare and the U.S. military, this course tackles the intersection of violence and health. Students will explore the social, cultural, political, historical, and economic contexts shaping the health of war torn communities, soldiers, and veterans. Crosslisted: PJHR; Social Science (SO)

SOCLH450 SENIOR DEPARTMENTAL STUDIES
Staff
Thesis work, two semesters required of majors in their senior year. Social Science (SO)
The Department of Spanish aims to give students a thorough knowledge of the Spanish language and the ability to understand and interpret Spanish, Latin American and Latino texts and cultures.

LEARNING GOALS
• Students interact effectively with Spanish speakers in Spanish-speaking countries.
• Students critically analyze literary, media and/or language-related products and processes.
• Students reflect on the world and on themselves through the lens of the Spanish language and cultures.
• Students develop interpretive, critical thinking and research skills through their study of the Spanish language and of Hispanic cultural narratives.

CURRICULUM
The department offers a broad range of courses:
• Elementary and Intermediate language courses (SPAN 001–002, 100, 101, and 102) introduce and develop the basics of the language and emphasize the active use of Spanish for communication and understanding of the cultures that use it.
  o Placement test results are mandatory; we expect all students to enroll in Spanish Department courses at the level of placement the department determines at the beginning of every academic year. On occasion, we will consider requests by individual students to move to a higher or lower placement level, after close and detailed consultation with the student’s adviser, the course instructor, and the department chair.
  o Language courses in the department require attendance to all classroom sessions and all tutorials, which provide crucial complementary activities and are part of the student’s final grade.
• Advanced courses at the 200 level in literature, film, culture and civilization, and linguistics introduce significant themes and authors, while further developing Spanish language skills in reading, writing, speaking, and oral comprehension.
• Advanced courses at the 300 level explore in greater depth a specific line of inquiry; a literary, cultural, or historical issue; or a theme in Spanish and Spanish American writing and thought.
• Courses in English, with readings in English or English translation, which aim to bring to a wider audience and across disciplinary boundaries important themes, issues, and accomplishments of the Spanish-speaking world. Examples include SPAN/COMPL 250 (Quixotic Narratives), and SPAN 266 (Iberian Orientalism and the Nation).

MAJOR REQUIREMENTS
• Six courses in Spanish and Spanish American literature or film, and
• Two semesters of SPAN 490 (Senior Seminar), in which students write a senior essay.
  o Of the six required courses, three should be at the 200 level and three at the 300 level.
  o Two of these 300-level courses must be taken at Haverford or Bryn Mawr.
  o Students who qualify by pre-college training or study abroad may substitute 300-level courses for the 200-level offerings.
  o The program must include at least two courses at the 200 or 300 level that focus substantially on literature prior to 1898.

Students may not count Bryn Mawr courses SPAN 110 (Introducción al análisis cultural) and SPAN 120 (Introducción al análisis literario) toward major requirements.

MINOR REQUIREMENTS
• Six courses at the 200 or 300 level, with a minimum of one course at the 300 level to be taken at Haverford or Bryn Mawr.
• One of the six courses should focus substantially on literature prior to 1898.

Students may not count Bryn Mawr courses SPAN 110 (Introducción al análisis cultural) and SPAN 120 (Introducción al análisis literario) toward minor requirements.
LATIN AMERICAN, IBERIAN AND
LATINO STUDIES
CONCENTRATION
The Latin American, Iberian and Latino Studies Concentration is an interdisciplinary program for students majoring in a related discipline who wish to undertake a comprehensive study of the cultures of Spanish America, Brazil or the Iberian Peninsula (Spain and Portugal).

The Spanish Department supervises the concentration, which is available to students majoring in history, history of art, religion, political science, anthropology, psychology, economics, comparative literature, linguistics or Spanish.

Working with the concentration coordinator, the student selects an array of six courses (as explained in detail in the relevant section of the Catalog) from among a list of approved courses relating to some aspect of LAILS, but also intersecting with the major. Then in the senior year the student incorporates the perspectives gleaned from these courses and disciplines into their senior capstone project.

For more information about the Latin American, Iberian and Latino Studies concentration and its requirements, please see the LAILS website (haverford.edu/lails).

SENIOR PROJECT
The senior thesis research project in the Spanish Department is a year-long process that serves as a capstone experience for our majors. To complete the project, all seniors enroll in the Spanish Senior Seminar (Spanish 490). In the fall, guided by a faculty member, students develop their thesis topic, compile critical bibliographies, and situate their writing in the context of scholarship in the appropriate field and subject, completing a prospectus. In the spring, students meet individually with a designated adviser on a weekly/bi-weekly basis, and submit sections of the work in accordance with a series of recommended due dates. The expectation is that the thesis will be about 25-30 pages in length.

Senior Project Learning Goals
- Ability to conceptualize a research question.
- Ability to use bibliographic resources and research tools appropriately.
- Ability to analyze literary and media products and/or certain language-related issues critically.
- Capacity to express, orally and in writing, complex ideas in correct Spanish, and to write in a compelling manner.
- Knowledge about the relevant scholarship.
- Ability to make an original contribution to the intellectual conversation with the text(s) and/or scholarship on the subject.

Senior Project Assessment
The grade for the thesis is assigned by consensus by the entire department, with special consideration of the input from the adviser. A rubric (based on the goals described above) is applied to assess the students’ work. Students also do an oral presentation of their work, but unless it is a strikingly strong or weak presentation, it does not affect the grade of the written portion.

To view the rubric, please see the departmental website.

AFFILIATED PROGRAMS
Accelerated Degree Program in Latin American Studies
Haverford joins other distinguished colleges and universities in an agreement with the Center for Latin American Studies at Georgetown University to participate in a five-year joint degree program. The cooperative agreement allows undergraduate concentrators in Latin American, Iberian and Latino Studies to pursue an accelerated course of study resulting in a graduate degree.

For detailed information about this opportunity, see the Latin American, Iberian and Latino Studies website (haverford.edu/lAILS).

REQUIREMENTS FOR HONORS
The department invites students it considers qualified to become candidates for honors during the second semester of their senior year. The department expects honors candidates to do superior work in upper-level literature and culture courses (with a 3.7 average). The department awards honors and high honors on the basis of the quality of the senior thesis. It is expected that an honors thesis will be about 35-40 pages in length.

STUDY ABROAD
The department encourages students to spend a semester or a year studying in a Spanish-speaking
context, in Argentina, Chile, Cuba, México, and Spain.

Credit for courses taken abroad will be determined on a case-by-case basis. Students will need to provide documentation about the content (e.g., syllabi, papers, and exams) of courses taken abroad.

The language requirement cannot be completed while studying abroad.

**FACULTY**

**Graciela Michelotti**  
Chair and Associate Professor

**Roberto Castillo Sandoval**  
Associate Professor of Spanish and Comparative Literature

**Israel Burshatin**  
Barbara Riley Levin Professor of Comparative Literature and Professor of Spanish

**Aurelia Gómez Unamuno**  
Assistant Professor

**Ana López Sánchez**  
Associate Professor

**Ariana Huberman**  
Visiting Associate Professor

**Lina Martínez Hernández**  
Visiting Assistant Professor

**Giselle Román Medina**  
Visiting Assistant Professor

**COURSES**

**SPANH001 ELEMENTARY SPANISH**  
*Staff*  
Development of basic phonetic and structural skills. Greatest emphasis is placed on spoken Spanish, with grammar and written exercises, to develop oral proficiencies. The course meets for five hours a week: three hours (3) with the instructor and two (2) hours in mandatory tutorial sections. This is a two-semester course. Both semesters are needed to receive credit. Prerequisite(s): Spanish 001; Humanities (HU)

**SPANH002 ELEMENTARY SPANISH**  
*Ariana Huberman*  
Development of basic phonetic and structural skills. Greatest emphasis is placed on spoken Spanish, with grammar and written exercises, to develop oral proficiencies. The course meets for five hours a week: three hours (3) with the instructor and two (2) hours in mandatory tutorial sections. This is a two-semester course. Both semesters are needed to receive credit. Prerequisite(s): Spanish 001; Humanities (HU)

**SPANH100 BASIC INTERMEDIATE SPANISH**  
*Staff*  
A course for students who have achieved a basic knowledge of Spanish but have limited experience and/or confidence communicating in the language. Students will improve their conversational and writing skills while learning about the ‘realities’ of Spanish-speaking countries. The course meets for five hours a week: three hours (3) with the instructor and two (2) hours in mandatory tutorial sections. Humanities (HU)

**SPANH101 INTERMEDIATE SPANISH**  
*Ana López Sánchez*  
Review of conversational skills and grammar and development of writing abilities. Literature readings are combined with materials from magazines, newspapers, and films from Spain and Spanish America. The course meets for five hours a week: three hours (3) with the instructor and two (2) hours in mandatory tutorial sections. Prerequisite(s): Spanish 002, placement, or consent; Humanities (HU)

**SPANH102 ADVANCED INTERMEDIATE SPANISH**  
*Graciela Michelotti*  
Refinement of writing and communicative skills. Readings are drawn from a variety of literary genres. Students are expected to involve themselves with Hispanic culture in order to improve and test their ability to use Spanish. The course meets for five hours a week: three hours (3) with the instructor and two (2) hours in mandatory tutorial sections. Prerequisite(s): Spanish 101, placement, or consent; Humanities (HU)
SPANISH

SPANH201 EXPLORING CRITICAL ISSUES THROUGH WRITING
Ariana Huberman, Ana López Sánchez
The course aims to provide students with the skills necessary to successfully undertake writing assignments in the upper-division Spanish courses. Students will be engaged in discussions of, and write about topics such as identity, borders and migrations, and manifestations of violence.
Prerequisite(s): Spanish 102, placement, or consent; Humanities (HU)

SPANH203 WRITING THE JEWISH TRAJECTORIES IN LATIN AMERICA
Ariana Huberman
Jewish Gauchos, “Tropical Synagogues,” “Poncho and Talmud,” “Matza and Mate.” This course will examine the native and diasporic worlds described in the apparent dichotomies that come together in the Latin American Jewish Literature. The class will trace the different trajectories of time, space and gender of the Jewish experience in Latin America, where issues of migration, memory and hybridization come to life through poetry, narrative and drama.
Prerequisite(s): Spanish 102, placement, or consent; Crosslisted: SPAN and COML; Humanities (HU)

SPANH205 STUDIES IN THE SPANISH AMERICAN NOVEL
Graciela Michelotti
Investigating the Past in Latin American Contemporary Narratives. This course examines issues of memory and identity in the context of personal and national stories/histories. The course will analyze recently published novels, and short stories (including some film adaptations) by representative writers from the region. Course is taught in Spanish. Crosslisted: SPAN and COML; Prerequisite(s): SPAN 102, placement, or consent of the instructor; Humanities (HU)

SPANH206 DIGITALLY NARRATING SECOND LANGUAGE IDENTITIES
Ana López Sánchez
An exploration of the students’ experience in bicultural/bilingual home, or abroad, and of the subjectivities they develop through their use of a second/foreign language. Reading of biographical texts by bilingual authors, and articles on the role of language in the construction of the self.
Prerequisite(s): interning/studying/ knowing 2+ languages, or permission of the instructor; Humanities (HU)

SPANH210 SPANISH AND SPANISH AMERICAN FILM STUDIES
Graciela Michelotti
Exploration of films in Spanish from both sides of the Atlantic. The course will discuss approximately one movie per class, from a variety of classic and more recent directors such as Luis Buñuel, Carlos Saura, Pedro Almodóvar, Lucrecia Martel among others. The class will focus on the cinematic discourse as well as the cultural and historic background of each film. The course will also provide advanced language training with particular emphasis in refining oral and writing skills.
Prerequisite(s): Spanish 102, or placement, or consent of instructor; Humanities (HU)

SPANH214 WRITING THE NATION: 19TH-CENTURY LITERATURE IN LATIN AMERICA
Ariana Huberman
An examination of seminal literary texts written in Latin America in the nineteenth century. Novels, essays, travelogues, short stories, miscellaneous texts, and poetry will be analyzed and placed in the context of the process of nation-building that took place after Independence from Spain. A goal of the course will be to establish and define the nexus between the textual and ideological formations of 19th-century writings in Latin America and their counterparts in the 20th-century.
Prerequisite(s): Spanish 102, placement, or consent of instructor; Humanities (HU)

SPANH221 NARRATING MODERN MEXICO
Aurelia Gómez Unamuno
This course approaches the reconstruction of the nation after the Mexican Revolution and its relevance in foundational narratives. Through literary texts and visual production including the Mexican Muralism, photography and films, this course analyses the Mexican Revolution and the post-revolutionary process stressing the tensions, contradictions, and debts of the Mexican Revolution to rural sectors including campesino and indigenous groups. Humanities (HU)

SPANH250 QUIXOTIC NARRATIVES
Israel Burshatin
Study of Cervantes, Don Quixote and of some of the works of fiction, criticism, philosophy, music, art and film which have drawn from Cervantes’s novel or address its formal and thematic concerns, including self-reflexivity, nation and narration, and constructions of gender, class, and “race” in
SPANISH

narrative. Other authors read include Borges, Foucault, Laurence Sterne, Graham Greene, Vladimir Nabokov, and Kathy Acker. Course taught in English. This course fulfills the “pre-1898” requirement. Humanities (HU)

SPANH266 IBERIAN ORIENTALISM AND THE NATION
Israel Burshatin
This course examines cultural production in the frontier cultures of medieval Iberia and the patterns of collaboration and violence among Islamic, Christian, and Jewish communities. Other topics include Christian reconquest and the construction of Spanishness as race and nation; foreign depictions of Spain as Europe’s exotic other; internal colonialism and Morisco resistance; contemporary African migrations. This class is conducted in English. Students who wish to obtain Spanish credit are expected to read Spanish language texts in the original and write all assignments in the language. Humanities (HU)

SPANH273 THE INVENTION OF PABLO NERUDA: POETICS AND POLITICS
Roberto Castillo Sandoval
This course deals with the principal works of Pablo Neruda’s long career as a poet. Close readings of his major poems will be accompanied by an examination of the criticism and reception of Neruda’s poetry at different stages of his trajectory. Special attention will be paid to the creation and elaboration of Neruda’s image as a poet, cultural icon, and political figure in Chile and in the Spanish-speaking world. Prerequisite(s): Spanish 102, placement, or consent of the instructor; Humanities (HU)

SPANH307 TALLER LITERARIO: WRITING SHORT FICTION IN SPANISH
Roberto Castillo Sandoval
A fiction-writing workshop for students whose Spanish-writing skills are at an advanced level. The class will be conducted as a combination seminar/workshop, with time devoted to discussion of syllabus readings and student work. The course will focus on essential matters of craft and technique in creative writing (point of view, voice, dialogue, narrative structure, etc.). Principally, we will be concerned with how stories work rather than what they mean. This perspective can prove a useful lens for reconsidering works long accepted as “great,” and a practical method for developing individual styles and strategies of writing. Humanities (HU)

SPANH322 POLITICS OF MEMORY IN LATIN AMERICA
Aurelia Gómez Unamuno
This course explores the issue of memory, the narration of political violence and the tension between truth and fiction. A selection of documents, visual archives and documentary films are compared with literary genres including testimonies, memories, diaries, poetry, and fiction writing. This course also compares the coup and dictatorship of Pinochet, with the repression of the student movement of ’68, and the guerrilla warfare in Mexico. Humanities (HU)

SPANH334 GENDER DISSIDENCE IN HISPANIC WRITING
Israel Burshatin
Study of the dissenting voices of gender and sexuality in Spain and Spanish America and US Latino/a writers. Interrogation of “masculine” and “feminine” cultural constructions and “compulsory heterosexuality,” as well as exemplary moments of dissent. Texts to be studied include Hispano-Arabic poetry, Fernando de Rojas’s Celestina; Tirso de Molina, Don Gil de las calzas verdes; Teresa of Avila, Gloria Anzaldúa, and Reinaldo Arenas. Prerequisite(s): a 200-level course or consent of the instructor; Humanities (HU)

SPANH340 THE MOOR IN SPANISH LITERATURE
Israel Burshatin
This course examines cultural production in the frontier cultures of medieval Iberia against a background of collaboration and violence among Islamic, Christian, and Jewish communities. Other topics include the myth of Christian “Reconquest”/Reconquista; the construction of Spanishness as race and nation in the context of the first global empire; idealization of Moors in narrative and material culture; Moors and Jews in the discourses of gender and sexuality; internal colonialism and Morisco resistance; perceptions of Spain as exotic or abject other in the Northern European or US imaginary; contemporary African migrations and the “return of the repressed” of imperial Spain. This class is conducted in Spanish. This course fulfills the “pre-1898” requirement. Humanities (HU)

SPANH343 LATIN AMERICAN CITIES
Graciela Michelotti

Haverford College Catalog 2016-2017
SPANISH

This course explores how literary and visual art texts have recently imagined the Latin American metropolitan space and reflects on the representation of these urban communities.

SPANH365 THE POLITICS OF LANGUAGE IN THE SPANISH-SPEAKING WORLD
Ana López Sánchez
The course will explore the relationship between (national) identity and language, and the specific outcomes of (language) policies and educational practices in societies where Spanish is spoken, generally alongside other mother tongues, often as the dominant language, but also in a minority situation. Crosslisted: SPAN and LING; Humanities (HU)

SPANH385 POPULAR CULTURE, IDENTITY & THE ARTS IN LATIN AMERICA
Roberto Castillo Sandoval
Humanities (HU)

SPANH490 SENIOR DEPARTMENTAL STUDIES
Graciela Michelotti
The course will consist of two one-semester parts. The first, taken in the Fall semester, will have the format of a seminar under the supervision of one Spanish Department faculty member. The purpose of this seminar will be to prepare students for the research and writing their senior theses by 1) enhancing and refining the reading tools and critical approaches to texts in Spanish acquired in previous courses; 2) elucidating and contextualizing relevant aspects of literary history, theory, and culture 3) determining the thesis topic, key secondary sources and approach to be deployed in writing the thesis, and 4) polishing the skills and methods for successful research and proper use of available resources. Problems in literary and cultural analysis-selected with a view to their pertinence in relation to the group’s interests-will be presented through close readings of works from various periods and genres and through selected works of criticism or theory. The second semester will involve the process of writing the thesis. Seminar meetings will continue—albeit in a more sporadic schedule—for progress reports while students work under the supervision of individual professors. Humanities (HU)
As a vital part of academic study, personal expression, and civic life, writing merits concerted attention in a liberal arts education. The Writing Program, affiliated with the College Writing Center, encourages students to become rigorous thinkers and writers who can construct arguments that matter, craft prose that resonates with their intended audience, and understand how inextricable writing is from learning.

**LEARNING GOALS**

Students will:

- become rigorous thinkers and writers who can construct arguments that matter, craft prose that resonates with their intended audience, and understand writing to describe and define both learning and knowledge.
- explore a particular theme or field of study while emphasizing writing as a means of inquiry, analysis, and persuasion.
- analyze readings, engage in discussion, and work on all aspects of academic writing, from constructing thoughtful arguments to crafting an effective prose style.
- advance critical reading and analytical writing skills, and explore the broad range of thematic interests inherent in these traditions, sharing as they do common roots in the history of our language and its influences.
- develop the vocabulary, skills, and knowledge necessary to understand not only how to decide what texts mean, but how texts generate and contemplate meaning.
- engage with different exercises in speaking with the understanding that this is a rhetoric commensurate with writing in demonstrating sustained critical inquiry.

**CURRICULUM**

The Writing Program administers the first-year writing seminars, which all first-year students take. Taught by faculty from across the College, the first-year writing seminars explore a particular theme or field of study while emphasizing writing as a means of inquiry, analysis, and persuasion. Different seminars extend intellectual inquiry into:

- visual and aural cultures.
- the interrogation of the literary canon.
- Quaker history and ethics; categories of difference (racial, sexual, religious, and national identity).
- medical humanities.
- engaged social practice.

The intensive writing seminars (WSI) prepare students who need extra exposure to academic writing.

Seminar topics reflect the range of expertise of the faculty, and small classes encourage close student-faculty interaction. In each course, participants analyze readings, engage in discussion, and work on all aspects of academic writing, frequently in small tutorial groups, from constructing thoughtful arguments to crafting an effective prose style.

Students can expect to write frequent, short essays as well as other kinds of informal writing assignments during the semester.

A list of seminars for each incoming class is posted on the Writing Programs website each June, along with information about how incoming students are to register for them.

Creative writing courses are listed under the English Department.

**FACULTY**

**Debora Sherman**  
Director of College Writing; Assistant Professor of English

**Kristin Lindgren**  
Director of the Writing Center; Visiting Assistant Professor of Writing

**Anne Balay**  
Visiting Assistant Professor of Writing; Coordinator for Gender and Sexuality Studies

**Elizabeth Blake**  
Visiting Assistant Professor of Writing; Writing Fellow

**Stephen Finley**  
Professor of English
WRITING PROGRAM

Ashley Foster
Visiting Assistant Professor of Writing; Writing Fellow

Richard Freedman
John C. Whitehead Professor of Music; Associate Provost

Barbara Hall
Specialist in Multilingual and Developing Writers and Speakers; Lecturer in Writing; Faculty Tutor in the Writing Center

John Hyland
Visiting Assistant Professor of Writing; Writing Fellow

Naomi Koltun-Fromm
Professor of Religion

Nimisha Ladva
Visiting Assistant Professor of Writing

Emma Lapsansky-Werner
Emeritus Professor of History and Emeritus Curator of the Quaker Collection

Jeremiah Mercurio
Research Librarian for Language and Literature; Visiting Assistant Professor of Writing

Rajeswari Mohan
Associate Professor of English

Benjamin Parris
Visiting Assistant Professor of English

Hannah Silverblank
Visiting Assistant Professor of Classics

Gus Stadler
Associate Professor of English

Theresa Tensuan
Associate Dean of the College; Dean for Diversity, Access and Community Engagement; Director of the Office of Multicultural Affairs; Visiting Assistant Professor of English

COURSES

WRPRH101 FINDING A VOICE: IDENTITY, ENVIRONMENT, AND INTELLECTUAL INQUIRY
Nimisha Ladva
First Year Writing

WRPRH109 PERSPECTIVES ON IMMIGRATION AND EDUCATION IN THE UNITED STATES
Barbara Hall
The primary goal of this course is to challenge students as academic readers, writers and thinkers while providing support for continuous growth. We will immerse ourselves in the historical, social, cultural, political, linguistic, and various other contexts of immigration to the United States, with a focus on salient issues relating to K-12 public education. What kinds of experiences, we will ask, have immigrant students had in American schools in the past century? Have schools served this population well? How have schools served this population well? How are schools serving this population well? What are the educational implications of these experiences? How are schools serving immigrant students in attaining the American dream of success and fortune? How do various kinds of educational practice (like bilingual education, English as a Second Language instruction, and contemporary multicultural education) marginalize or empower immigrant students? Readings for the course will include a wide variety of perspectives on these issues, and to that end will include academic articles, ethnographic texts, autobiographical writing, and fiction. Haverford students only. First Year Writing

WRPRH118 PORTRAITS OF DISABILITY AND DIFFERENCE
Kristin Lindgren
Rosemarie Garland-Thomson writes that “staring is an interrogative gesture that asks what’s going on and demands the story. The eyes hang on, working to recognize what seems illegible, order what seems unruly, know what seems strange.” In this seminar we will explore visual and literary portraits and self-portraits of bodies marked by difference, bodies that often elicit stares. We will ask: What kinds of stories are told about these bodies? How do memoirs and self-portraits by people with disabilities draw on and challenge traditions of life writing and portraiture? How does this work enlarge cultural and aesthetic views of embodiment, disability, and difference? What strategies do writers and artists employ to represent invisible disability and interior bodily...
space? How do portraits of disability engage differences of gender, race, and class? Through close readings of essays, memoirs, paintings, and photographs, students will hone their descriptive and interpretive skills and develop their ability to craft clear and persuasive arguments. Haverford students only. First Year Writing

WRPRH128 READING SACRED TEXTS  
*Naomi Koltun-Fromm*

An introduction to reading sacred texts in an academic setting. In this course we will apply a variety of methodological approaches—literary, historical, sociological, anthropological or philosophical—to the reading of religious texts, documents and materials. First Year Writing

WRPRH132 BEETHOVEN  
*Richard Freedman*

Humanities (HU)

WRPRH133 THE AMERICAN WEST IN FACT AND FICTION  
*Emma Lapsansky*

An examination of the imagery of the American West. Using visual and verbal images, this course explores such diverse aspects of the West as cowboys, cartography, water rights, race and social class, technology, religion, prostitution, and landscape painting. Open only to member of the first-year class as assigned by the Director of College Writing. First Year Writing

WRPRH130 INTRODUCTION TO LITERARY ANALYSIS  
*Staff*

Intended like other sections of the Writing Program to advance students’ critical reading and analytical writing skills, this course is geared specifically towards introducing students to the discipline that studies the literary traditions of the English language. One of its aims is to explore the broad range of thematic interests inherent in these traditions, sharing as they do common roots in the history of our language and its influences. The powers and limits of language; ideas of character and community, and the relation between person and place; heroic endeavor and the mystery of evil; loss and renovation these are among the themes to be tracked through various strategies of literary representation and interpretation in a variety of genres (epic, narrative, and poetry) and modes (realism, allegory, and romance), and across a range of historical periods. Our goal is to develop the vocabulary, skills, and knowledge necessary to understand not only how we decide what literary texts mean, but also how literary texts generate and contemplate meaning. First Year Writing

WRPRH155 DRAWING THE LINE: ORIGIN STORIES AND GRAPHIC NARRATIVE  
*Theresa Tensuan*

Haverford students only. First Year Writing

WRPRH156 GOOD GUYS & GALS? QUAKER IMAGERY IN FICTION  
*Emma Lapsansky*

First Year Writing

WRPRH162 IMMIGRATION AND REPRESENTATION  
*Nimisha Ladva*

Open only to first-year students as assigned by the Director of College Writing. First Year Writing

WRPRH164 PEACE TESTIMONIES IN LITERATURE AND ART  
*Ashley Foster*

Open only to first-year students as assigned by the Director of College Writing. First Year Writing

WRPRH167 GLOBALIZATION IN THE 21ST CENTURY  
*Barbara Hall*

Open only to first-year students as assigned by the Director of College Writing. First Year Writing

WRPRH168 MADNESS AND WINE IN CLASSICAL LITERATURE  
*Staff*

Open only to first-year students as assigned by the Director of College Writing. First Year Writing

WRPRH169 IMAGINING OTHER FUTURES: ART, POETRY, AND SOCIAL CHANGE  
*John Hyland*

This seminar investigates the ways that poets and artists have responded—and continue to respond—to acts of injustice, instances of violence, and regimes of social oppression. Students learn how to speak, write, and think about the entanglements of art, poetry, and politics. Haverford students only. First Year Writing

WRPRH170 ON (NON)VIOLENCE  
*Ashley Foster*

This course considers theories of nonviolence and begins the work of building vocabularies for peace.
In an age of perpetual war, the ethical request compelled by the other’s very vulnerability to “think peace into existence” presents a political, philosophical, and moral challenge that our itinerary seeks to address. Open only to first-year students as assigned by the Director of College Writing. First Year Writing

WRPRH171 TRUTH AND TECHNO-IDENTITY: DIGITAL AUTO/BIOGRAPHIES
Jeremiah Mercurio
An examination of the ways in which we communicate autobiographical truth online. Through class activities and small-group tutorials, students will hone their skills as critical readers, writers, and speakers. Readings by Sherry Turkle, Eli Pariser, Judith Butler, and Stuart Hall. Open only to first-year students as assigned by the Director of College Writing. First Year Writing

WRPRH172 ECOLOGICAL IMAGINARIES: IDENTITY, VIOLENCE, AND THE ENVIRONMENT
John Hyland
This course interrogates how representations and imaginings of the environment are inseparable from issues of social justice. Considering how literature and art engage the environment, this course explores and investigates a range of topics and issues that arise from the intersection of racism, sexism, imperialism, globalization, and the environment. Open only to first-year students as assigned by the Director of College Writing. First Year Writing

WRPRH175 WOMEN’S WORK
Elizabeth Blake
A literary history of women’s work and women workers, investigating questions such as: Is femininity itself a form of labor? How can a demand for wages enable a political reorientation? And if work feels good, or happiness feels like work? Open only to members of Haverford’s first-year class as assigned by the Director of College Writing. First Year Writing

WRPRH176 ARE YOU WHAT YOU EAT? EATING AND IDENTITY
Elizabeth Blake
Investigates the complex relationship between food and identity; engages food practices that can unite families, consolidate ethnic identity, reinforce class boundaries, and express gender; asks whether food can assert contemporaneity or materialize nostalgia for an idealized agrarian past. Open only to members of Haverford’s first-year class as assigned by the Director of College Writing. First Year Writing

WRPRH177 HOW STUFF WORKS
Anne Balay
Exploring several pervasive systems that operate by virtue of being invisible, our goal is to *see* the internet, gender, and trucking/goods distribution as structures that discipline sociality, knowledge, and global power. Open only to members of Haverford’s first-year class as assigned by the Director of College Writing. First Year Writing

WRPRH178 BEASTS, MONSTERS AND GIANTS: CONFRONTING MONSTERS FROM THE PAST
Hannah Silverblank
Figurations of the monster in different literary and artistic traditions, from Greek literature to Gothic fiction and horror cinema. Considers the status of the monster, sometimes a source of horror, of reverence, of disgust, of humor, and even of endearment. Open only to members of Haverford’s first-year class as assigned by the Director of College Writing. First Year Writing
ACADEMIC CENTERS
Haverford’s Libraries and three Academic Centers—the Koshland Integrated Natural Sciences Center (KINSC), the John B. Hurford ’60 Center for Arts and Humanities (HCAH), and the Center for Peace and Global Citizenship (CPGC)—are an integral part of the intellectual community for students and faculty at Haverford College. The Libraries are a multi-modal learning hub for access and engagement with traditional and digital scholarship, and they are a fundamental locus for faculty and student research. The Centers instantiate the many ways in which the academic disciplines interconnect, and they formalize elements of cross-disciplinary engagement, a hallmark of the College’s liberal arts curriculum. Together, the Academic Centers and Libraries forge connections throughout the curriculum, creating interdisciplinary and multidisciplinary research and pedagogical learning opportunities.

CENTER FOR PEACE AND GLOBAL CITIZENSHIP (CPGC)
The Center for Peace and Global Citizenship (CPGC) advances Haverford’s longstanding commitment to peace and social justice through research, education, and action. The Center integrates innovative scholarship and responsible civic engagement around contemporary issues of global significance. With its commitment to knowledge as the foundation for effective action, the Center embodies Haverford’s scholarly and ethical mission as a premier liberal arts college.

The Center achieves this mission by supporting student and faculty scholarship connected to key global issues of the day. Through its various programs and funds, the Center serves as a bridge between theory taught in the classroom and practical experience both on and off campus. Its strategic goal is to assist members of the Haverford community develop their skills as effective agents of social change.

For more information on the CPGC and its programs, visit haverford.edu/CPGC.

THE JOHN B. HURFORD ’60 CENTER FOR THE ARTS AND HUMANITIES (HCAH)
The John B. Hurford ’60 Center for the Arts and Humanities (HCAH) supports the intellectual and artistic ambitions of faculty, students and staff. We foster collaboration, experimentation, and critical thought through seminars, symposia, research and curricular support, working and reading groups, arts and performance residencies, exhibitions and visual culture programming. Our initiatives reach beyond the local and familiar to connect with diverse communities of writers, artists, performers, thinkers, activists, and innovators.

The HCAH has a deep commitment to the arts and coordinates the Tuttle Creative Programs, the Cantor Fitzgerald Gallery, and the Campus Exhibitions Program. Through vigorous inquiry and innovative artistic practice, the Hurford Center works across the campus to cultivate interdisciplinary connections between humanistic endeavors and ethical currents in the wider public.

For more information on the HCAH and its programs, visit haverford.edu/HCAH.

THE MARIAN E. KOSHLAND INTEGRATED NATURAL SCIENCES CENTER (KINSC)
The Marian E. Koshland Integrated Natural Sciences Center (KINSC) catalyzes and facilitates programs that maintain Haverford’s position at the leading edge of academic excellence in the sciences. To this end, the KINSC promotes scientific scholarship involving close collaboration between faculty and students and provides opportunities for these collaborations to expand beyond the borders of the Haverford campus.

The KINSC is unique among Haverford’s three academic centers in that it is both a building and a program. The 185,000 square-foot building is the epicenter of natural science research at Haverford. It was constructed to facilitate sharing of instruments, methodology, and expertise across disciplines and to contribute to a climate of cooperative problem solving and investigation.

The KINSC comprises the departments of Astronomy, Biology, Chemistry, Physics, Psychology, Mathematics and Statistics, and Computer Science. To supplement the efforts of the departments, the KINSC supports interdisciplinary dialogue and collaborations. In addition to directly funding students and faculty, the KINSC supports
academic activities initiated with outside grants and individual faculty awards.

The programming and funding functions of the KINSC support the faculty and students of these departments as well as others within the college who wish to pursue research in the sciences. The KINSC funds individual research projects and also sponsors symposia, curricular initiatives, courses, and scholarly projects that go beyond the bounds of a single discipline and involve students and faculty from multiple departments.

For more information on the KINSC and its programs, visit haverford.edu/KINSC.

LIBRARIES
The Haverford College Libraries provide resources and services that support the teaching, learning, and research needs of the Haverford community. Through instruction sessions and individual consultations, librarians introduce students to resources, research strategies, evaluative skills, close critical readings of texts, and the iterative process of research. Librarians work with students at all stages of their projects, from first-year seminar assignments to senior theses, helping students refine their topics and questions, locate and obtain relevant materials, and analyze and use those material effectively and ethically. Further, the Libraries are home to a robust Digital Scholarship program, an Exhibitions program featuring student-curated shows, an Internship and Fellowship program, and several different Lecture series that engage the campus and wider communities on a variety of questions and topics.

The Libraries consist of Magill Library, Quaker & Special Collections, Union Music Library, White Science Library, and the Astronomy Library. In addition, as part of the Tri-College Libraries system, Haverford students have access to collections at Bryn Mawr and Swarthmore Colleges.

For more information on the Libraries and their programs, visit library.haverford.edu.