### W&J College Catalog

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- 1.1.1 W&J Mission Statement

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- 1.2.1 W&J Student Outcomes

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W&J College Catalog

2012-2013 School Year

This online catalog represents the most accurate information on Washington & Jefferson College available at the time of posting. The College reserves the right to make alterations in its programs, regulations, fees and other policies as warranted.

For More Information

Requests for information should be directed to the relevant office listed below at the following address:

Washington & Jefferson College
60 South Lincoln Street
Washington, Pennsylvania 15301

For general questions, call: 724-222-4400

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<td>Director of Admission 724-223-6025 Toll-free 888-826-3529 <a href="mailto:admission@washjeff.edu">admission@washjeff.edu</a></td>
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<td>Summer Session</td>
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Washington & Jefferson College is accredited by the Middle States Commission on Higher Education, 3624 Market Street, Philadelphia, Pennsylvania 19104, 267-284-5000. The Middle States Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

Washington & Jefferson College does not discriminate in its educational programs, activities, or employment on the basis of race, religion, sex, sexual orientation, age, disability, national origin, or any other nationally protected legal status in accordance with applicable state and federal laws. In addition, W&J complies with applicable state and federal laws governing nondiscrimination in employment. Inquiries may be directed to the Affirmative Action Officer, Washington & Jefferson College, 60 South Lincoln Street, Washington, Pennsylvania, 15301. 724-503-1001, ext. 3012.

**W&J Mission Statement**

The College's mission is to graduate people of uncommon integrity, competence, and maturity who are effective lifelong learners and responsible citizens, and who are prepared to contribute substantially to the world in which they live. To this end, the College promotes the development of skills, knowledge, personal qualities, and a worldview that characterize a well-educated person.

All components of the living and learning environment at W&J are designed and intended to support this mission. This catalog and the Student Handbook describe the expectations of W&J students and resources available to support their development.

**W&J Student Outcomes**

W&J students, faculty, and staff are liberated by our experiences at the College. We understand that our values as a community of learners are a shared responsibility, strengthened through practice across the full range of our activities. In the classroom, on the athletic field, in clubs and professional activities, in the residence halls, we are committed to connecting formal learning experiences to our everyday engagements with the world. We ground this commitment in the language we use to express our principles and aspirations:

**W&J graduates demonstrate intellectual curiosity, grounded in interdisciplinary thinking;**

lifelong learning; connecting natural and social sciences, arts, humanities, to make meaning from experiences in the world

"we explore beyond boundaries"

**informed analysis and decision making;**

finding, evaluating, using information appropriately; effective reasoning; independence of thought; depth of knowledge; innovation

"we think carefully"

**integrity**

ethical reasoning; accepting responsibility; taking failure as opportunity; courage to lead; teamwork; empathy

"we teach the whole student"

**and individual agency;**

initiative; self-awareness; motivation; self-direction; taking responsibility for physical and emotional health

"we own our experiences"

**the ability to communicate ideas;**
quantitative reasoning; oral and written communication; critical and creative thinking; adaptability; textual, visual, and artistic literacies; information technologies; the study of languages

"we practice the liberal arts"

and a commitment to local and national communities,

*juncta juvant*; respectful of diversity; spirit of service; responsibility; knowledge of community expectations; political and social engagement; environmental conscience; civility in discourse

"we give back"

paired with responsible global citizenship.

understanding difference and commonality, at home and abroad; seeing one's place in the larger world; able to practice everyday diplomacy

"we engage with the world"

**Curriculum and Graduation Requirements**

Washington & Jefferson College offers a liberal arts education with sufficient breadth and depth to allow students to pursue a great variety of personal and career interests. There are more than 40 majors and programs. The College intends not only that students study one or more areas intensively, but also that students come to see the relationship of their fields of study to the rest of human knowledge. The College curriculum promotes the broad perspectives, academic skills, and personal qualities required for lifelong learning and responsible, productive citizenship.

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**Catalog of Entry**

The catalog in effect for the term in which the student first completes coursework at Washington & Jefferson College becomes the student's College and major program catalog of entry. The catalog of entry defines the College and program requirements an entering student must complete in order to earn the bachelor of arts degree, and is in effect for the next five years from the point of entry into the College.

Changes in either major or non-major requirements that are made necessary by altered or discontinued courses or by requirements imposed by external accrediting or certification agencies will be resolved on an individual basis by the chair of the department in which you major. Whenever possible, new requirements are implemented with a beginning class.

Transfer students are governed by the same regulations.

**Statement of Responsibility**

It is the responsibility of each student to know both the College-wide graduation requirements and those of the major field of study, and to meet all requirements satisfactorily for graduation. Students have the assistance of numerous College personnel who will help them understand these requirements. The academic advisor, the major department chair, the Office of Academic Affairs, and the registrar are the first resources each student should turn to when questions arise.
Breadth and Depth

Washington & Jefferson College has two sets of graduation requirements: College-wide requirements, which all students must complete, and program-level requirements, which include the requirements for completing your major. College-wide requirements are discussed in this section. Specific requirements for majors, minors, and other programs can be found in areas of study.

A minimum of 32 full-term semester courses and 2 Intersession courses are required for a Bachelor of Arts degree from Washington & Jefferson College. This minimum excludes physical education and wellness courses. Students must have a minimum grade point average of C or better to graduate and must be “in residence” for a minimum of four terms of full time study, one of which must be their final full-term semester. This requirement applies to all new students, including transfer students. All students must complete at least 16 full-term semester courses and 2 Intersession courses at W&J.

The diploma is awarded only to graduates who have met all obligations to the College, both academic and financial.

College-Wide Requirements

There are five components to the College-wide requirements, also referred to as "general education" requirements.

I. First Year Seminar

All new full-time, first-year students must complete a First Year Seminar as an introduction to the liberal arts, the College, and college-level expectations. The First Year Seminar is a graded course which gives students the opportunity to study a well-defined subject in a small group. Seminars aim to develop a range of learning skills, such as reading, writing, speaking and quantitative analysis, depending on the content of the individual seminar. Special emphasis will be placed on critical analysis of the subject in question, both in writing and class discussion. Seminars also provide opportunities to participate in a range of cultural and intellectual events. First Year Seminar instructors serve as academic advisors to students in the Freshman class.

II. Breadth of Study

Typically, courses taken to satisfy the breadth of study component of the general education requirements are broad introductions to a field of study, open to any student and with an emphasis appropriate for non-majors in the field. The courses will also provide opportunities for students to develop at least three of the following modes of thought:

- To observe clearly,
- To think critically,
- To make informed judgments,
- To reason abstractly,
- To solve problems,
- To think creatively.

The breadth of study requirement is completed through specially designated general education courses in each of four areas of study as described below. Each term the Office of the Registrar makes available a session schedule of classes, which indicates the courses that have been specially designated for the purpose of satisfying the breadth of study requirement.

- **Arts**—Arts courses promote an understanding of artistic process and/or the discrete application of artistic processes in art, communication, music, and theatre. Students must complete one specially designated arts course.
- **Humanities**—Humanities courses promote an understanding of the meaning of human life through study of language, literature, philosophical and religious texts, and history. Students must complete three specially designated humanities courses from at least two different disciplines.
- **Social Sciences**—Social science courses promote an understanding of fundamental features of human behavior and social structures and their role in shaping communities. Students must complete at least two specially designated social science courses from different disciplines.
- **Natural Sciences and Mathematics**—Natural science and mathematics courses promote an understanding of the nature or methods of scientific inquiry and mathematical reasoning. Students must complete two courses carrying the NSM designation from different departments or programs and one course carrying a lab designation. Many courses carrying lab designation will also carry an NSM designation and can be counted for both. For the purposes of counting, SCI courses shall be considered department or program neutral and the requirement may be satisfied by pairing a SCI course with any other NSM-designated course.

III. Cultural Diversity

The cultural diversity requirement is intended to introduce students to the cultural diversity of societies throughout the world, with the goal of understanding both the interconnectedness of those societies and the need to respond with intelligence and sensitivity to the peoples of varied social backgrounds and cultural frameworks. Each student must complete one course devoted primarily
to the study of cultural diversity in American society or elsewhere, or to the study of a culture or cultures outside the United States and Western Europe. Such courses are specially designated on the session schedule of classes published by the registrar. This course may also be taken to satisfy the breadth of study or other graduation requirements.

IV. Academic Skills

All students must take steps to develop their academic skills, particularly in the areas of oral and written communication, quantitative reasoning, foreign language, and information technology. To that end, skill development is integrated into some course offerings so as to offer you intensive instruction and practice in these areas. Courses taken to satisfy an arm of the academic skills requirement may also apply towards breadth of study or other graduation requirements. Courses that are specially designated for oral communication, writing, and quantitative skill development are published each term on the schedule of classes.

- **Writing**—All students will take a writing intensive course in the first year. Transfer students must show similar training from courses completed prior to matriculating at Washington & Jefferson College. In addition to the first-year intensive writing course, students must pass two specially designated writing courses, each in a different discipline.
- **Oral Communication**—Students must pass one specially designated oral communication course.
- **Quantitative Reasoning**—Students must pass one specially designated quantitative reasoning course.
- **Foreign Language**—All students must complete either two terms of a foreign language at the first-year level (either 105 and 106 or 106 and 207) or one term at the second year level (207). Students who place above the 207 level will be exempted from additional courses in language towards this requirement. Students are encouraged to fulfill this requirement during their first two years at W&J.
- **Information Technology**—In addition to the course-based skills described above, the faculty of the College are committed to appropriate integration of information technology across the curriculum (ITAC). The faculty monitor all courses offered at the College for appropriate and sufficient integration of various technology skills.

V. Physical Education and Wellness

All students must complete the equivalent of one course in Physical Education and Wellness, in addition to the 32 semester + 2 Intersession courses required for graduation. Students may satisfy this requirement by taking four (half semester) 1/4 courses or two (full-semester) 1/2 courses, or any combination of 1/2 and 1/4 courses. Participation in a varsity sport, as this participation is defined by the Department of Athletics, will count as a 1/2 course; only one varsity sport may be used in this manner. All physical education and wellness courses will be taken under the satisfactory/unsatisfactory grading policy, unless the option of taking a course for a letter grade is specified in the course's description.

The Academic Major

In addition to the general education requirements described, all students must complete the requirements of an academic major. Specific requirements for majors offered at the College are detailed in the areas of study section of this catalog. You may also propose your own academic major, by pursuing a thematic major.

New full-time, first-year students are not permitted to declare the major until the end of the first semester of the freshman year and enter the College as "open" in major. You may make a nonbinding declaration of major at the end of your first term. However, no student may remain "open" past the second semester of the sophomore year.

Most majors comprise eight to 10 courses; however, individual programs may stipulate additional courses within the subject area, related fields, or foreign language. All majors require a culminating project appropriate to the field, commonly called the "capstone experience."

The following policies apply towards completing any academic major:

- No course in which a student receives a grade below C- shall count toward the fulfillment of major requirements, nor shall any course which is completed under the College's satisfactory/unsatisfactory grading option.
- The overall grade point average in all courses required for the major must be C or better.
- Courses counted towards the major may also count toward fulfillment of the College's general education requirements.
- Regulations governing the application of courses towards the major program can be found in "How Courses are Counted."
- Normally, courses applied towards the major must be completed at W&J. However, with the approval of the department chair, up to three courses may be earned "off-campus" in the major. Such coursework transferred back to W&J is subject to all regulations governing external coursework.
- A transfer student will consult with the major department chair regarding completion of the major at W&J. Generally the limit of three external courses is upheld, although at the major department chair's discretion, more than three may be applied towards major for a transfer student. If less than three accepted for transfer are applied towards the major, this student may pursue external coursework under the provisions.

Summary of Degree Requirements

Each student must complete a minimum of 32 semester courses and 2 Intersession courses (exclusive of physical education and
wellness), with a minimum overall grade point average of C or better and with a grade point average of C or better in major course requirements; and must complete satisfactorily:

**First Year Seminar:** 1 course

**Breadth of Study:**

- **Arts** - 1 Course
- **Humanities** - 3 Courses (at least two disciplines)
- **Social Sciences** - 2 courses (different disciplines)
- **Natural Science and Math** - 2 courses (different departments or programs, one lab experience)

**Cultural Diversity:** 1 course (may also count towards other requirements)

**Academic Skill Development:**

- **Oral Communication** - 1 course
- **Quantitative Reasoning** - 1 course
- **Writing** - 3 courses (freshman composition plus two courses in different disciplines)
- **Technology Skills** - Integrated across curriculum
- **Foreign Language** - 2 courses if study begins at first-year level; 1 course if study begins at second-year level

**Physical Education and Wellness:** Equivalent of 1 course (does not apply to 34-course requirement)

**Academic Major:** Minimum of 8 to 10 courses, including capstone experience

**Electives:** 8 to 10 courses

**TOTAL: 32 SEMESTER COURSES + 2 INTERSESSION COURSES, PLUS ONE COURSE EQUIVALENT IN PHYSICAL EDUCATION/WELLNESS**

**Additional Courses of Study**

**Double Major**

Because of the flexibility of the curriculum, and the number of electives available, students who desire to do so may use eight to 10 of their available elective courses towards fulfilling a second major, and thus graduate with two academic majors, pursuant to all policies governing the academic major. No student is required to complete a second major. A student pursuing two majors may not count more than two of the same courses toward the completion of each major.

**Academic Minor**

Academic minors are courses of study that provide less depth than the major. A minor may provide focused study within a discipline or from across more than one discipline. No student is required to complete an academic minor although many choose to do so. Typically, minor courses of study require six courses as stipulated by each program offering this course of study. Minors are governed by the following policies:

- A program administering a course of study may not require completion of any minor program as part of the requirements for a major.
- No course in which the student earns a grade of less than C- shall count towards fulfillment of the minor requirements, and the student must maintain an overall grade point average of C or better in courses counted towards the minor.
- Courses counted towards the minor may also count toward fulfillment of the College’s general education requirements.
- Regulations governing the application of courses towards the minor program can be found in the "How Courses are Counted."

**Emphasis**

An emphasis is a course of study providing a particular focus or degree of specialization within the context of a particular major. Typically, you complete an emphasis by using elective courses within the major to provide the degree of specialization. The set of courses required to complete the major and an optional emphasis may not exceed one half of those required for graduation.

**Concentration**

A concentration is a course of study providing a particular focus or degree of specialization that is offered only by interdepartmental/interdisciplinary programs or special programs at the College. The number of courses required for a concentration is at least four but no more than five, and all concentrations are available to you as a course of study, regardless of your major.
Combined Degree Programs

Combined degree programs allow a student to capitalize on the strengths of the liberal arts education offered by W&J while pursuing certain professional interests. Students in these programs complete their general education requirements and the bulk of an academic major while in residence at W&J, typically over a three-year period, after which the student commences study in an accredited graduate or professional program. The student is then eligible for a bachelor of arts degree from W&J, in addition to being eligible for a second degree from the other institution. Examples are the College's 3-2 engineering program and combined degree programs offered through the College's health professions program.

A student who has attained senior status at the College and who has fulfilled the College wide requirements, including at least six courses towards a major offered by the College with grade of C- or better and a C average in those major courses, and who then enters an accredited graduate or professional school prior to completing the senior year, may apply for a bachelor of arts degree from Washington & Jefferson College. The degree will be completed by transferring back to W&J an appropriate array of courses so that graduation requirements are met. The verification of the degree is made by the appropriate faculty review body, typically, the chair of the department in which you major. In some programs, more than six courses towards the major must be completed while you are in residence at W&J. You should consult with the director of the program you are interested in for more information.

How Courses Are Counted

Partial Courses

For the purpose of meeting the minimum of 32 semester courses and 2 Intersession courses required for graduation, students may combine partial courses (other than physical education and wellness courses) to make whole courses. For example, students may take one half semester course in mathematics and one half semester course in applied music to make one full semester course. Physical education and wellness courses do not apply towards the 34-course graduation requirement.

Some courses are "unbilled" and cannot be used to achieve full-time status for the purpose of qualifying for financial aid. These courses include all PED and MUA courses, MTH 320, MTH 420, PHY 441, PHY 442, BIO 301, and freshman and sophomore-level ROTC courses (MSC 101, 102, 201, and 202). While these courses (excepting PED courses) can be combined toward the 32 semester-course graduation requirement, they cannot be counted toward achieving full-time status for financial aid purposes. As a general rule, "unbilled" courses should be added to students’ schedules on top of a full load (3-4 courses) of billed courses.

Application of Courses Towards Degree Requirements

- Any course used to satisfy a course of study offered by a departmental program may also be used to satisfy a course of study offered by an interdepartmental or interdisciplinary program.
- Any course outside a discipline that is required by a departmental program for a course of study may also be used to satisfy requirements for other courses of study, except for the following cases:
  - Students may not major in more than one discipline administered by the same department, but they are permitted to major and minor in different disciplines administered by the same department. In such instances, no more than two courses taken to fulfill requirements for the major may be used to satisfy the requirements for the minor. Exception: Students are permitted to major in more than one modern language.
  - A capstone experience in one major cannot count as a capstone experience in another major.
  - Students may not complete a separate major in any of the disciplines that are part of their interdepartmental or interdisciplinary major unless approved by the programs involved.

Opportunities Outside the Regular Term

Intersession

The Intersession term, a distinctive feature of the W&J academic calendar, offers sharply focused courses designed to be a change from the standard curriculum. During their four years at W&J, students are required to take two Intersession courses, which can take the form of an on-campus class, a college-sponsored course of study off-campus, or a for-credit internship. Students are limited to one regular course and one physical education course per Intersession. All travel expenses for Intersession courses are the responsibility of the student, as are any special costs for field trips. Students wishing to take an Intersession course from another institution and transfer credit to W&J must obtain prior approval for the transfer of credit. A description of the approval process is available in the Office of the Registrar.

The majority of Intersession courses are offered in January, although on occasion they are offered in May. In such circumstances, students may register for no more than one regular Intersession course per academic year without incurring additional tuition.

Some examples of recently offered Intersession courses are:
The Integrated Semester

Periodically, the faculty organizes an integrated semester on a particular interdisciplinary theme. Offered in a fall or spring term, the integrated semester consists of a set of regular departmental courses dealing with the common theme and an integrative seminar involving regular meetings and an interdisciplinary project. Recent offerings are the integrated semester on dreams and fantasies and the integrated semester on Asia.

In order to participate in the integrated semester and receive a transcript designation for it, a student must satisfactorily complete at least two courses in the program and write a paper connecting material from those courses. The paper must be completed to the satisfaction of two of the faculty members affiliated with the program at the time. Courses offered for the integrated semester are open to all students as are the public lectures and events associated with the program.

Summer School

The summer session lies within the charge of the regular faculty and administrative officers, and the courses are an integral part of the regular curriculum. To provide the necessary educational opportunities, W&J offers two summer sessions. Both are day sessions. The first is typically in June; the second typically in July. The summer session has been designed to provide expanded educational opportunities for:

- W&J students seeking to satisfy academic deficiencies or to accelerate their four-year program;
- Students from other colleges who wish to take specific course offerings;
• Persons employed in the local area who are enrolled in college degree programs;
• Local school teachers who wish to take courses for permanent certification;
• Recent high school graduates who wish to begin college early

Students are limited to a total of four courses (or two lab science courses) during Summer School (two courses per term—or one lab science course per term).

Qualified high school students who have completed their junior year may be admitted to certain courses subject to approval. Students who have matriculated at another college are responsible to certify that they are in good standing at that institution and to confirm that they have the necessary prerequisites for their Summer School course selections.

When a student attending the W&J summer session plans to transfer the credit elsewhere, it is the student's responsibility to make arrangements with the registrar.

Summer session information, including courses of instruction, tuition, and housing, is posted each spring on the W&J Web site (www.washjeff.edu/summer-program). Current W&J students may register for Summer School using WebAdvisor at the same time they register for fall courses. Visiting students should register on an online registration form available on the Summer School Web site. Questions about Summer School should be directed to the Office of Academic Affairs.

Other Options For Course Credit

Transfer of External Coursework

It is possible to earn course credit by transferring work completed at another college or university to Washington & Jefferson College. No more than 16 of the 32 required semester courses required for the bachelor of arts degree may be transfer courses, and no more than three may be applied towards the major. See “Obtaining Course Credit from Other Colleges” for more information.

Tutorials

A tutorial course is intended to provide individual students the opportunity to pursue a specific course of academic work under the close direction of an instructor who has agreed to supervise the work. The typical tutorial course is one that is listed in this catalog, but which the student pursues outside of the traditional classroom setting. Therefore, the instructor for the tutorial guides the course of the tutorial. Such courses may be offered under their standard course nomenclature or under 291/292 (freshmen and sophomores) or 391/392 (juniors and seniors) numbers.

Internship - 198, 198J (January), 198S (Summer)

The faculty has established internships so that students might better acquaint themselves with environmental, prevocational, political, social, educational, or technical circumstances of our society. The central component of the internship is an off-campus, participatory experience, under the guidance and supervision of a qualified practitioner in the field. The experience must involve academic content. Time spent in the field may be reduced by the amount of time necessary to complete academic requirements or materials for evaluation. Also, the faculty advisor of the internship or the chair of the department offering the internship may require additional academic requirements for the student to complete, where it seems appropriate. Internships are offered primarily during Intersession and they are graded satisfactory/unsatisfactory.

A student may take no more than two internships for credit. Both may be taken in the same department. A student must have an overall grade point average of 2.50 or higher (4.00 scale) to take an internship, and a student on academic probation may not take an internship.

If a student wishes to pursue course credit for a summer internship, it is considered a summer course and is subject to the summer session course fee.

Independent Study - 500, 501, 299J (January), 299S (Summer)

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs. The deadline for application is April 15 for fall
internships and November 15 for spring.

**International Education and Study Abroad  International and Off-Campus Programs**

Students may earn credits toward their W&J degree by participating in an approved semester- or year-long program of off-campus study. For more information, please refer to the section on International Education and Study Abroad.

### Areas of Study

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| **All W&J students must complete a major to graduate.** | Accounting  
Biology  
Business Administration  
Chemistry  
Communication Arts  
Computing and Information Studies  
East Asian Studies  
Economics  
Education - Teacher Certification Education (Teacher Certification)  
English  
Entrepreneurial Studies  
Environmental Studies  
French  
Gender and Women's Studies  
German  
History  
Mathematics  
Music  
Neuroscience  
Philosophy  
Physics  
Psychology  
Religious Studies  
Sociology  
Spanish  
Theatre | Accounting  
Art  
Biology  
Biochemistry  
Biological Physics  
Chemistry  
Business Administration  
Communication Arts  
Child Development and Education  
Computing and Information Studies  
Economics  
Environmental Studies  
French  
German  
History  
International Business  
International Studies  
Mathematics  
Music  
Philosophy  
Physics  
Political Science  
Psychology  
Sociology  
Spanish  
Theatre  
Thematic Major  
Teacher Certification (K-12) available for majors in: Art Education, Environmental Education, French, German, Spanish |

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An emphasis is a specialization offered through a particular major.

Financial Economics
Human Resource Management
Neuroscience
Thematic Emphasis

A concentration is a specialization offered through an interdisciplinary or special program.

Entrepreneurial Studies
Film and Video Studies
Graphic Design
Professional Writing
Rhetoric

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**First Year Seminar**

For information on this required course for first year students, please visit the First Year Seminar page on the College website.

**Accounting**

**Professor:** Kuhn (coordinator), Robison

**Associate Professor:** Galley, Kinder

Accounting has been called “the language of business.” As with any language, to comprehend its meaning one must not only read it, write it, and speak it but understand the context in which it is communicated as well. Students learn accounting in a liberal arts environment. Specifically, the accounting program develops students’ technical competencies while stressing critical thinking and analytical abilities as well as written and oral communication skills. The importance of ethical considerations and the significance of the interdisciplinary nature of societal problems are emphasized as we help students prepare for careers in public accounting, private industry, government, and related executive and managerial opportunities.

**MAJOR REQUIREMENTS:** ACC 211, 311, 321, 331, 332, 341, 471; ECN 101 and 102; BUS/MTH 131 or MTH 151, and MTH 225; either BUS 302 or ECN 341; and one of the following: ACC 342, 351, 361, or 431.

The department requires that the following courses be completed at Washington & Jefferson College: ACC 211, ACC 311, 321, 331, 332, 341 and 471, MTH 131 and MTH 225, and either BUS 302 or ECN 341. A student admitted to the College after having completed these courses at another college or university must petition the chair of the department for special consideration in order to waive this requirement and transfer any of the required courses to his or her major at Washington & Jefferson. Also, students may petition the department chair to waive this requirement to complete specific courses at Washington & Jefferson so as to facilitate a term of study abroad. While not required, the department encourages the students to complete an internship in accounting.

**MINOR REQUIREMENTS:** ACC 211, 321, 331, 332, and two additional 300- or 400-level ACC courses.

The department requires that the following courses be completed at Washington & Jefferson College: ACC 211, ACC 321 and 331 and 332. A student admitted to the College after having completed these courses at another college or university must petition the chair of the department for special consideration in order to waive this requirement and transfer any of the required courses to his or her major at Washington & Jefferson. Also, students may petition the department chair to waive this requirement to complete specific courses at Washington & Jefferson so as to facilitate a term of study abroad.

**NOTES:** A grade of C or better is required to satisfy the prerequisite requirement for any accounting (ACC) course serving as a
prerequisite for other accounting (ACC) courses. Students majoring or minoring in Accounting may not also major or minor in Business Administration. Students majoring in Accounting may obtain a minor in Economics, but not a double major in Economics or Financial Economics.

**CPA EXAM AND LICENSURE REQUIREMENTS**

Most states now require a baccalaureate degree and 150 semester hours of credit for licensure as a C.P.A. Additionally, within the 150 semester-hour requirement, many states require a specific number of semester hours in accounting and some require a specific number of semester hours in business (as distinct from accounting).

Since the typical undergraduate degree requires the completion of 120 to 128 semester hours, the 150 hour requirement demands effectively, in many cases, an additional academic year of coursework. However, upon meeting W&J's graduation requirement of 32 semester and 2 Intersession courses, and the physical education/wellness requirement, students are awarded 140 semester hours of credit. Thus, W&J graduates need only 10 additional hours of credit to satisfy the requirement. These additional hours may be obtained through additional undergraduate courses at W&J or other institutions, or through courses taken as part of a graduate program. Subject to satisfying credit-hour requirements in accounting and business as mandated by some states, these additional hours do not necessarily need to be in accounting and business.

The requirements of W&J's accounting major are designed to preserve the flexibility needed for students to avail themselves of the breadth of educational opportunities offered by the liberal arts. The requirements of the major are sufficient to provide a foundation for entry into the accounting profession.

**ACC198 - Internship**

The faculty has established internships so that students might begin to apply their talents to the world outside the classroom and obtain a taste of professional life in the political, environmental, social, educational, or technical spheres. The central component of the internship is an off-campus, participatory experience, under the guidance and supervision of a qualified practitioner in the field. The experience must involve academic content. Time spent in the field may be reduced by the amount of time necessary to complete academic requirements or materials for evaluation. The faculty advisor of the internship or the chair of the department offering the internship may require additional academic requirements for the student to complete, where it seems appropriate. Internships are offered primarily during Intersession, but can also be taken during the regular terms and in the summer. They are graded satisfactory/unsatisfactory. A student may take no more than two internships for credit. Both may be taken in the same department. A student must have an overall grade point average of 2.50 or higher (4.00 scale) to take an internship, and a student on academic probation may not take an internship. If a student wishes to pursue course credit for a summer internship, it is considered a summer course and is subject to the summer session course fee.

**ACC211 - Financial Accounting**

An introduction to the theory and processes used to analyze, measure, and report the activities of business entities. Includes the study of the role of the accounting function, the accounting equation, general purpose financial statements, overall principles of net income measurement, the public reporting environment and an overview of the accounting and reporting of selected operating, investing, and financing transactions of business entities.

**ACC311 - Managerial Accounting and Finance**

An introduction to decision-making, planning and control activities within the context of the strategic management process including financial statement analysis, cost flows in financial statements, cost assignment concepts, cost behavior and estimation concepts, cost-volume-profit analysis, long-term and short-term pricing decisions, business unit performance measurement, capital investment decisions, financing decisions, financial planning/budgeting and management control systems.

*Prerequisites: ACC 211 and either BUS 302 or ECN 341; concurrent registration in either BUS 302 or ECN 341 will be accepted with the permission of instructor*

**ACC317 - Financial Statement Analysis**

An introduction to the analysis of financial statements including a review of general purpose financial statements, the environment and regulation of external reporting, vertical and horizontal analysis, ratio analysis, evaluation of disclosures in both notes to financial statements and supplementary financial information, the effect of alternate accounting principles on earnings, evaluation of the quality and persistence of earnings, and rudimentary methods of financial forecasting using published financial information. This course cannot be used to satisfy the requirements for the accounting major, accounting minor, business major or business minor.

*Prerequisites: ACC 211 and either BUS 302 or ECN 341; concurrent registration in either BUS 302 or ECN 341 will be accepted with the permission of the instructor*
ACC321 - Accounting & Management Information Systems

An introduction to the design and operation of systems used to process business transactions and accumulate information for both preparing general purpose financial statements and for supporting the managerial planning and control process, all within the context of computerized data processing technology. Includes the study of the flow of activities and documents in each of the major transaction cycles of business entities, the actual use of integrated accounting/business process software, and an overview of information technology concepts.

Prerequisites: ACC 211

ACC331 - Intermediate Financial Accounting I

This course and ACC 332 serve as a study of the general accepted accounting principles underlying the preparation of general purpose financial statements used primarily to communicate information to external decision makers. It includes the conceptual framework of financial accounting, the form and content of financial statements, and a study of the authoritative pronouncements of the Financial Accounting Standards Board (FASB) relative to accounting and reporting of the operating activities of business entities.

Prerequisites: ACC 321 and either BUS 302 or ECN 341, or concurrent registration in these courses and the permission of the instructor

ACC332 - Intermediate Financial Accounting II

A continuation of ACC 331, this course is a study of the authoritative pronouncements of the Financial Accounting Standards Board (FASB) relative to accounting and reporting of the financing and investing activities of business entities.

Prerequisite: ACC 331

ACC341 - Taxation of Business Entities

This course is an introduction to the study of income tax regulations and analysis of income tax considerations relative to the different types of tax payers with emphasis on business entities, including sole proprietorships, partnerships, corporations, and limited liability companies. A broad range of tax concepts and issues are introduced. This course includes a review of tax compliance, tax planning matters, and the role of taxation in the business decision-making process.

Prerequisites: ACC 211

ACC342 - Taxation of Individuals

This course is a study of income tax regulations and an analysis of income tax considerations, both relative to individual taxpayers. It includes a review of tax compliance, tax planning matters, and the role of taxation in the financing and investing decisions of individuals. Basic tax research is introduced.

Prerequisites: ACC 211

ACC351 - Cost and Advanced Managerial Accounting

A study of product costing concepts and systems including both traditional and emerging cost assignment methodologies as well as the managerial accounting topics of profitability analysis, cost management and transfer pricing.

Prerequisites: ACC 311

ACC352 - International Accounting

Accounting is often referred to as the language of business. As a global transformation occurs, one of the dialects we must learn to "speak" is international. Our world has changed and is now a multinational economy. Volkswagens, Toyotas, and Mercedes Benz automobiles are found around the globe. Japanese TV sets are commonplace worldwide, and Boeing airplanes deliver passengers to every major airport in the world. Italian shoes, American Coca-Cola, and Japanese cameras can be bought in all but a few isolated countries. This is truly an age of global economic interdependence. The multinational nature of contemporary
business is an established (and probably irreversible) fact that we must study, understand, and embrace as we move forward in the age of corporate internationalism.

**ACC361 - Governmental and Nonprofit Accounting**

A study of accounting and reporting for governmental nonprofit entities as defined by the authoritative pronouncements of the Governmental Accounting Standards Board (GASB) and for private nonprofit entities as defined by the Financial Accounting Standards Board (FASB).

*Prerequisites: ACC 211*

**ACC431 - Advanced Financial Accounting**

This course is a study of the authoritative pronouncements of the Financial Accounting Standards Board (FASB) relative to parent/subsidiary relationships, consolidated financial statements, business combinations, foreign exchange transactions, and translation of foreign currency financial statements.

*Prerequisites: ACC 332 or concurrent registration in ACC 332 and permission of the instructor*

**ACC471 - Auditing and Assurance Services**

A study of the theory and practice of auditing and other assurance services, this course includes a review of generally accepted auditing standards, auditing procedures, and professional ethics. Other topics include internal control review, audit planning, examination of evidential matter, and reporting responsibilities. This is the capstone course for the major.

*Prerequisites: ACC 332 or concurrent registration in ACC 332 and permission of the instructor*

**ACC497 - Advanced Topics in Accounting, Current Problems in Accounting, Accounting Theory**

The class schedules and students' transcripts will indicate specific course offerings and completions.

*ACC 332 or concurrent registration in ACC 332 and permission of the instructor*

**ACC500, 501 - Independent Study**

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

*Prerequisites: ACC 332 or concurrent registration in ACC 332 and permission of the instructor*
Arabic

Rarely in history has a language emerged more forcefully in the world than has Arabic in the recent past. Nearly every aspect of contemporary life is touched by the millions of speakers of Arabic. From energy production and the realignment of international politics, to life-changing questions of religion and philosophy and to new uses for scarce natural resources, Arabic will remain at the center of inquiry for years to come.

PLACEMENT PROCEDURES: All students taking a language at W&J must take the student information questionnaire prior to enrollment in that language. Students with a background in this language must also complete the computerized adaptive placement exam (CAPE). Incoming freshmen will usually take the exam prior to registration during summer orientation, but the exam may be administered at any time. The results of the questionnaire and exam will usually determine the level at which a student will begin a course of study in the language. A student who falls at the high or low end of a scoring range may be placed higher or lower than the course indicated, depending on the number of years of language the student has had. Placement in these situations is done in consultation with a faculty member from the relevant program. Because of the varying requirements for completing a major or minor in language, it is to the student's advantage to begin at the highest level possible.

ARA105, 106 - Elementary Arabic I, II

An introduction to the basics of spoken and written Arabic with emphasis on performance in culturally appropriate ways. Students engage in conversations, exchange of information and opinions, and expressions of feelings and emotions. Additionally, students will become familiar with the foundations of the Arabic writing system.

Taught largely in Arabic.

Prerequisite: ARA 105 for ARA 106, or the permission of the instructor

ARA207 - Intermediate I

Intended for students who have completed the first year sequence or its equivalent in Arabic. Students will develop listening, speaking, and writing skills. Course will address cultural situations in contemporary societies in the Arabic speaking world.

Taught largely in Arabic.

Prerequisite: ARA 106, or the permission of the instructor

ARA208 - Intermediate Arabic II

This is a course with intensive review, oral expression, listening comprehension and special emphasis on written Arabic forms. Daily activities will include authentic texts and videos and contemporary web sites from various parts of the Arabic-speaking world. Special emphasis will be placed on the multiple facets of contemporary Arabic culture.

Course taught largely in Arabic.

Prerequisites: ARA 207, or the permission of the instructor

ARA257 - Arabic Literature in Translation

An introduction to Arabic literature and culture from the classical period to the 21st century through readings from novels, short stories, drama and poetry. Taught in English.

Prerequisites: None

Art and Art History

Professor: Lambertson (chair), Maloney

Associate Professor: Schmidt

The Department of Art is dedicated to teaching studio art, art education, and the history of art and to advising majors in an atmosphere that encourages cooperation and independence among faculty and students. The department offers majors in studio art and art education.
MAJOR REQUIREMENTS: Both the studio art and art education majors require a total of 10 art courses. The required courses are listed below. Additional art courses must be elected from the department's other offerings.

- **STUDIO ART MAJOR REQUIREMENTS**: ARH 101, 102, ART 108, 112, 361 or 362, 363, one 300-level ARH course, one 300- or 400-level ART course, and two 400-level ART courses. ART 400 and 425 do not count toward the studio art major.

- **ART EDUCATION MAJOR REQUIREMENTS**: ARH 101, 102, 355, ART 108, 112, 361, 363, 400, one 300- or 400-level ART course, and one 400-level ART course. ART 425 does not count toward the art education major. In addition, students must complete admission procedures and required courses in education as outlined in this catalog.

CAPSTONE EXPERIENCE: In addition, as a capstone experience, departmental majors must present a Senior Art Show. During the junior year, the student's work will be screened by a committee comprised of the art faculty. A student whose work is not approved will be advised to take specific courses or to work independently to correct deficiencies. The student's work will then be reviewed and must receive committee approval before the student presents the Senior Art Show on campus.

AP Policy: The Art Department does not accept any AP Art History or AP Studio Art credits. If a student has received a 4 or 5 on an AP Studio Art evaluation, he or she may present a portfolio of work to the department chair for consideration to waive certain pre-requisites for course work in the Art Department.

GRAPHIC DESIGN CONCENTRATION: The department collaborates with the CIS department on a graphic design concentration. Please refer to the Graphic Design catalog listing for further information on this area of study.

TEACHER CERTIFICATION: Students may seek Specialty Education (grades K-12) Certification in Art by completing the Art Education major and an Education minor consisting of those courses required for Specialty Education (grades K-12) Certification. Before being formally admitted to the program, students must satisfy-by the end of the sophomore year-the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

**ARH101 - World Art I**

This course introduces the history of art from prehistory to the late middle ages and examines the world's artistic heritage in its religious, political, and social contexts.

**ARH102 - World Art II**

This course introduces the history of art from the fifteenth century to the present and examines the world's artistic heritage in its religious, political, and social contexts.

**ARH247 - Special Topics in Art History**

Study of a special topic in art history varying by semester. Possible topics include artists, movements, themes, or periods in the history of art.

**ARH330 - The Renaissance**

An in-depth study of the form and content of European art from the early fifteenth century to the end of the sixteenth century. Original course material from the literature of art history will supplement the slide lectures.

*Prerequisite: ARH 101 or 102, or permission of the instructor*

**ARH340 - Baroque Art**

This course explores the art of the seventeenth and early eighteenth century in Italy, Flanders, Germany, Spain, England, Holland, and France. The Counter-Reformation in Catholic countries, the celebration of riches in Holland, and the politics of absolutism will be treated as they influenced the making and experience of art.

*Prerequisite: ARH 101 or 102, or permission of the instructor*
ARH347 - Special Topics in Art History

Study of a special topic in art history varying by semester. Possible topics include artists, movements, themes, or periods in the history of art.

Prerequisite: ARH 101 or 102, or permission of the instructor

ARH352 - Nineteenth-Century Art

This course examines the visual arts from 1750 to 1900, surveying neoclassicism, romanticism, realism, impressionism, and post-impressionism. Intellectual currents, political revolutions, and industrialization will be addressed as they are reflected in art and as they affected its creation.

Prerequisite: ARH 101 or 102, or permission of the instructor

ARH355 - Twentieth-Century Art

This course treats the visual arts (painting, sculpture, architecture, and some film) from roughly 1880 to 2000, surveying fauvism, cubism, German expressionism, revolutionary art in Russia, Dadaism, surrealism, abstract expressionism, pop art, and postmodernism. This course seeks to combine the disciplines of intellectual, social, political, and cultural history with the study of art.

Prerequisite: ARH 101 or 102, or permission of the instructor

ARH370 - Women and Western Art

This course examines the roles women have played in the visual arts in Western traditions from the ancient world to today, concentrating on the modern period. Focus is on the work of women artists, the commissions of women patrons, the responses of audiences to these works, and the meanings generated by the female form. The course also surveys texts representative of critical trends in scholarship on women artists and gender.

Prerequisite: ARH 101 or 102, or permission of the instructor

ARH400 - Seminar in Art History

A seminar for advanced and well-prepared students, this course concentrates on an individual artist, specific problem, limited time period, or theme and serves as a capstone experience for the art history major. Students produce a significant research paper and present this work to the seminar.

Prerequisite: Permission of the instructor

ARH405 - Internship in Art History

This course is a supervised off-campus experience developed in consultation with the art history faculty.

Prerequisites: Permission of the instructor and department chair

ARH500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director. During the January Intersession term, the independent study option is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies. Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs. The deadline for application is April 15 for fall internships and November 15 for spring.
ART108 - 2-D and 3-D Design

This course is an introduction to the foundations of art. Topics of discussion will center on the principles and elements of design, both two- and three-dimensional, and color theory. Emphasis will be placed on creative problem solving using a variety of media.

ART112 - Beginning Drawing

This course acquaints the beginning student with the tools, the application, and the creative process of basic drawing media. Such areas as landscape, still-life, figure, and non-objective subjects will be considered so that the individual may find a personal statement through line.

ART130 - Photography

An in-depth study of the form and concept of the photographic media, this course places special emphasis on creative imaging through composition, lighting, and exposure with the 35mm camera. This course will provide students with hands-on training in black and white film processing and printmaking.

ART240 - Ceramic Sculpture

This course presents students with the basic skills of hand-building, modeling, and working from a live model. Students explore a personal expression through observation, investigation, and the study of the human figure and portraiture. Materials used include stoneware, earthenware, slips, glazes, and stains.

ART247 - Special Topics in Studio Art

Study of a special topic in studio art varying by semester.

ART261 - Beginning Ceramics

This course introduces non-majors to the basic skills and techniques of hand-building and wheel-throwing and encourages students to explore a personal artistic vision, primarily through functional and nonfunctional vessels. Students prepare clays, mix glazes, and assist in loading and firing kilns. Lectures, slides, and videos present such topics as natural clays, ancient pottery, and contemporary ceramics.

ART262 - Beginning Sculpture

This course introduces non-majors to basic skills and techniques in sculpture and encourages them to explore a personal artistic vision. Students manipulate plaster, wood, stone, and clay through the sculptural techniques of carving, modeling, and casting.

ART263 - Beginning Painting

This course introduces non-majors to the basic skills and techniques of painting in oil and acrylic and encourages students to explore a personal artistic vision. Students will investigate the elements and principles of design as well as color theory in a progressive series of assignments designed to foster creative thinking.

ART312 - Figure Drawing

This course acquaints the student with drawing the human figure from the skeleton, wooden figurines, and the model. Students explore a variety of methods, applications, and tools in the creative process. Emphasis is placed on individual progression and finding a personal statement.

Prerequisite: ART 112

ART347 - Special Topics in Studio Art

Study of a special topic in studio art varying by semester.
ART361 - Ceramics Studio I

This course introduces students to the basic skills and techniques of hand-building and wheel-throwing. Building upon prior experience in the studio, students seek to develop a personal artistic vision through functional and nonfunctional vessels. Students prepare clays, mix glazes, and assist in loading and firing kilns. Lectures, slides, and videos present topics such as natural clays, ancient pottery, and contemporary ceramics.

Prerequisite: ART 108 or 112

ART362 - Sculpture Studio I

This course introduces students to the basic language, elements, media, tools, and principles of sculpture and seeks to develop their personal artistic vision. Students manipulate plaster, wood, stone, and clay through the sculptural techniques of carving, modeling, and casting.

Prerequisite: ART 108, 112, or 261

ART363 - Painting Studio I

This course introduces students to the basic skills and techniques of painting in oil and acrylic and encourages them to develop a personal artistic vision in a series of works. Applying the elements and principles of design and color theory, students explore the psychological, emotional, and intellectual qualities of painting in a progressive series of assignments designed to foster creative thinking.

Prerequisite: ART 108 or 263

Recommended: ART 112

ART400 - Principles of Art Education

This course is designed to provide the student with a broad range of skills and knowledge in art education to become a qualified art teacher at the elementary or secondary school levels. This would include methods and materials for teaching practicum and a wide variety of studio experiences for the student to develop confidence in his or her own media of creative expression.

Offered: Fall term

ART405 - Internship in Studio Art

This course is a supervised off-campus experience developed in consultation with the studio art faculty.

Prerequisite: Permission of the instructor and department chair

ART425 - Graphic Design Studio

This course focuses on producing portfolio-quality work based on creative, visual problem solving. Class assignments build upon the theory and technical skills presented in the previous four courses in the graphic design concentration. This course is intended to provide a capstone experience for the concentration in graphic design. This course does not satisfy requirements for either the art or art education major.

Prerequisites: ART 108, ART 112, CIS 271, and CIS 361

ART461 - Ceramics Studio II

This course presents students with advanced skills and techniques in ceramics and continues to develop their personal artistic vision. Considerable emphasis is placed on creating, glazing, and firing a body of work. Students also contribute to a supportive and collaborative studio environment.

Prerequisite: ART 361
ART462 - Sculpture Studio II

This course presents students with advanced skills and techniques in sculpture and continues to develop their personal artistic vision. Considerable emphasis is placed on creating a body of work centered on an idea or theme. Students experiment with a variety of media, engage in independent critical thinking, and contribute to a strong studio dialogue.

Prerequisite: ART 362

ART463 - Painting Studio II

This course presents students with advanced skills and techniques in painting and continues to develop their personal artistic vision. Considerable emphasis is placed on creating a body of work centered on an idea or theme. Students work in oil, acrylic, or experiment with watercolor and contribute to a supportive and collaborative studio environment.

Prerequisite: ART 363

ART500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Biochemistry

Biochemistry Steering Committee:

Professor: Lee

Associate Professors: DeBerry, Harris (director), Leonard, Matsuno

The biochemistry major is intended to prepare students for advanced study in biochemistry or entry-level positions in biochemical research. This rigorous interdisciplinary major, administered jointly by a steering committee with representation from the biology and chemistry departments, provides a broad background in biochemistry and the molecular processes of life.

MAJOR REQUIREMENTS: A total of 16 courses, including MTH 151, PHY 101 or 107, and 102 or 108; BIO 101, 102, 212, and 311; CHM 160, 170, 260, and 270; BCH 320 (or CHM 360), 333, and 401. In addition, elect any 2.5 courses from BIO 201, 202, 235, 314, CHM 320, 350, 380, 420, 480, and BCH 500 or 501. BCH 401 serves as the capstone for the biochemistry major.

NOTE: a student who is majoring in Biochemistry cannot also major or minor in either Biology or Chemistry.

BCH320 - Biophysical Chemistry

This course applies principles of thermodynamics and chemical kinetics and dynamics to living systems and biopolymers. Topics include homogeneous and heterogeneous equilibria, chemical potential, measurement and theories of reaction rate in biochemical systems, diffusion, osmotic pressure, and sedimentation. The laboratory is designed to develop skills necessary for independent research involving projects of a biophysical nature.

Three hours lecture, three hours lab

Prerequisites: BIO 101 and 102; CHM 160, 170, 260, and 270; MTH 151; and PHY 107 and 108 or 101 and 102
BCH333 - Biochemistry

This course is an introduction to the fundamental principles of biochemistry with an emphasis on the structure and function of proteins, carbohydrates, lipids, and nucleic acids in living systems. Metabolic pathways and their regulation are studied in detail. Modern biochemical laboratory techniques are discussed in lecture and employed in the laboratory component of the course.

*Three hours lecture, three hours lab*

Prerequisites: BIO 101 and 102; CHM 160, 170, 260, and 270 (or PHY 317); and MTH 111

BCH401 - Biochemistry Seminar

(1/2 Course)

This course is intended for junior and senior biochemistry majors, but is open to all students who meet the prerequisites. Under the guidance and with the approval of the faculty facilitator, students will present the results of classic and current research published in biochemistry professional journals. Discussion will follow each oral presentation, providing critical evaluation of the article and its implications. The specific theme of the seminar will vary from year to year.

Prerequisites: BIO 101 and 102; CHM 160, 170, 260, and 270; and two of the following: BIO 212, 311, BCH 320, or 333

BCH500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Biological Physics

Professor: Cannon (director), Pettersen, Sheers

Associate Professors: Bayline, Leonard

Biological physics is a discipline that focuses on the physics problems presented by biological systems. It uses physics to gain new insights into biological problems. This interdisciplinary major, administered by the physics department, is intended to prepare students for study in areas of the life sciences and health professions that are increasingly technical. Examples include cell biology, neuroscience, and medical research.

**MAJOR REQUIREMENTS:** A total of 16 courses. Required courses are MTH 151 and 152, BIO 101 and 102, CHM 160 and 170, BCH 333, and PHY 107 (or 101), 108 (or 102), 209, 234, 327, 390 (1/2 course), 441 (1/4 course), and 442 (1/4 course). Students completing the biological physics major must also elect one of PHY 317 or CHM 360; one of PHY 313, 322, 331, or 381; one of BIO 212, 311, 314, 201, NSC 300, or any biology course at the 200 level or above approved by the Biological Physics Major Advisory Committee.

**CAPSTONE EXPERIENCE:** The capstone experience for the biological physics major is the biological physics senior research project, which is completed through PHY 441 and 442.

Biology

Professors: Lee (chair)
Associate Professors: Bayline, Contreras, DeBerry, March

Assistant Professors: Burns, Kilgore, Shanmuganathan, Weixel

Program Coordinator: McGrain

The mission of the Department of Biology is to provide a challenging and exciting environment where students develop the skills and background necessary to be both well-informed, responsible citizens and highly competitive scholars in their chosen field. Students completing the major learn the most current research skills and methodologies through independent student-based research projects and internships. The department provides a wide variety of learning opportunities outside of the classroom in the form of outreach, student clubs, and field station projects. Biology faculty assume a leading role in programs that provide training in specific fields such as pre-health, neuroscience, biochemistry, education, and environmental studies. The faculty is also dedicated to the further development of departmental programs through grant writing and student recruitment. The department is committed to providing resources and facilities that permit students to use the best possible scientific instruments in an optimal environment.

Available to the Department of Biology for course instruction and student independent study projects is the Abernathy Field Station, located four miles southeast of the campus. The field station is a 54-acre natural area of sugar maple-mixed hardwood forest with a small field, two streams, and an arboretum containing more than 150 different tree species.

MAJOR REQUIREMENTS: The biology curriculum is designed to permit maximum flexibility for students to work closely with advisors to customize their selection of courses to emphasize areas such as biotechnology, environmental studies, or the neurosciences. The biology major may choose from two programs.

General Biology: BIO 200; at least one course from Group 1- BIO 201, 212, or 215; at least two courses from Group 2- BIO 202, 205, 206, 209, 235, 245, or 288; and at least two courses from Group 3- NSC 300, BIO 311, 314, 317, 319, 320, 412, 416, or BCH 333 or BIO 500/501. There must be a total of seven courses beyond BIO 101 and 102.

Cell/Molecular Biology: (At least one course from BIO 201, 212 or 202), BIO 215 or 314, 311, and BCH 333; plus two from 201 or 212, 202, 235, 215 or 314, 317, 412 or 500 or 501 (but not both), or NSC 300 and one additional course at the 200 level or above. CHM 160, 170, 260, and 270 and PHY 101 and 102 or PHY 107 and 108.

NOTE: BIO 101 and 102 are required for both programs. BIO 101 and 102 are the only courses numbered below 200 that count toward the major.

CAPSTONE EXPERIENCE: All biology majors must complete a capstone experience during either the junior or senior year, and take the Major Field Test in Biology. Any one of the following may be used to satisfy the capstone requirement:

- Biology Seminar (BIO 301)*
- An approved biologically-related summer research internship**
- Approved summer on-campus research in the biological sciences**
- Experimental Biology (BIO 412)*
- Specified 300- and 400-level courses with optional capstone projects***: ecology (BIO 320)*; evolution (BIO 416)*; field biology (BIO 319)*; genomics (BIO 317)*
- Independent Study (BIO 500 or 501)*
- An approved biology tutorial (BIO 391 or BIO 392)* during the junior or senior year
- An approved senior research project in environmental studies (EVS 430)*

All students are required to present their capstone work as a poster, oral presentation, or in some other approved format on campus or at a regional or national meeting.

* Students must earn a C- or better for a course to count as fulfilling the capstone experience.
** Students who do summer research must submit a detailed journal or research notebook documenting their work and they must make a formal presentation of the project on campus (as an oral presentation, poster presentation, or other approved form).
*** Capstone projects in courses must include the following: library research involving reading of original research publications; a written abstract of the project; and a formal presentation of the project (as an oral presentation, poster presentation, or other approved form).

See the Biology Handbook for additional recommendations in regard to these programs. Pre-professional students should consult the requirements for recommendation by the Committee on Health Professions to assure their completion of entrance requirements.

MINOR REQUIREMENTS: BIO 101 and 102 and four additional courses numbered 200 or above, including a course in botany and one course from each of the three groups indicated under general biology.

NOTE: BIO 100 and 114 are designed for non-majors.
AP Policy: Credit for BIO 100 will be given for 5 on the AP Biology test. Students who earn an A- in BIO 101 and who had a 5 on the AP Biology test may choose not to take BIO 102 but may replace it with another 200-level biology course. Permission of the department chair is required.

TEACHER CERTIFICATION: Students may seek Secondary Education (grades 7-12) Certification in Biology by completing the General Biology major, the required Biology content area requirements, and the Education minor consisting of those courses required for Secondary Education (grades 7-12) Certification.

The biology content area requirements are: BIO 201, 212, 235, 320, and one from 202 or 206; at least one from each of the following areas: general chemistry, physics, mathematics, and earth and space science (courses that would fulfill this requirement include CHM 160, 170, and 260; PHY 101 or 107; MTH 225 or MTH 245; and any ESS course). Also, the student must serve at least one term as a lab assistant prior to student teaching.

Students may seek Upper Elementary Education Certification (grades 4-8) in Science in one of two ways: Option 1: Complete the Child Development and Education major and the Biology minor; Option 2: Complete the General Biology major, the required Biology content area requirements, and the Education minor consisting of those courses required for Upper Elementary Education (grades 4-8) Certification.

Before being formally admitted to either program, students must satisfy—by the end of the sophomore year—the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

BCH333 - Biochemistry (BCH)
This course is an introduction to the fundamental principles of biochemistry with an emphasis on the structure and function of proteins, carbohydrates, lipids, and nucleic acids in living systems. Metabolic pathways and their regulation are studied in detail. Modern biochemical laboratory techniques are discussed in lecture and employed in the laboratory component of the course.

Three hours lecture, three hours lab

Prerequisites: BIO 101 and 102; CHM 160, 170, 260, and 270 (or PHY 317); and MTH 111

BIO100 - Introduction to Biology
An introductory laboratory biology course for non-science majors. In any one session, the content will focus on a particular topic that illustrates the basic concepts of biology. Examples of past topics include environmental issues, fitness and exercise, disease and malignancy, and evolutionary biology. Where possible, items from the current popular press will be used as a significant resource.

Offered: Fall and/or Spring term(s)

Three hours lecture, three hours lab

BIO101 - General Biology
This course introduces biology including principles of biochemistry, cell biology, and genetics. Topics include structure and function of macromolecules, cell structure, membrane transport, cellular respiration, photosynthesis, mitosis and meiosis, Mendelian and molecular genetics, and recombinant DNA technology. Biological evolution is introduced, including prebiotic chemical evolution, a survey of prokaryotes, and the evolution of eukaryotes.

Offered: Fall term

Three hours lecture-recitation, three hours lab

BIO102 - General Biology
This course will build upon the concepts introduced in BIO 101. Based on the theme of organic evolution, this is an introductory course of integrated lectures and laboratory experiences in animal biology covering anatomy, physiology, behavior, evolution, and ecology. Animal diversity is surveyed from sponges through the culminations of the protostome and deuterostome lines. Laboratories incorporate the scientific method of gathering and evaluating data, as well as field experience.

Offered: Spring term

Three hours lecture-recitation, three hours lab
**BIO114 - Topics in Biology**

(For non-majors)

Course offerings in various areas of current biological interest (e.g., genetics, evolution and society, horticulture) designed to amplify the life science background of the educated individual. Consult the preregistration bulletin for the topic being offered.

*Offered: Varies*

*Three hours lecture*

**BIO198 - Internship**

The faculty has established internships so that students might begin to apply their talents to the world outside the classroom and obtain a taste of professional life in the political, environmental, social, educational, or technical spheres. The central component of the internship is an off-campus, participatory experience, under the guidance and supervision of a qualified practitioner in the field. The experience must involve academic content. Time spent in the field may be reduced by the amount of time necessary to complete academic requirements or materials for evaluation. The faculty advisor of the internship or the chair of the department offering the internship may require additional academic requirements for the student to complete, where it seems appropriate. Internships are offered primarily during Intersession, but can also be taken during the regular terms and in the summer. They are graded satisfactory/unsatisfactory. A student may take no more than two internships for credit. Both may be taken in the same department. A student must have an overall grade point average of 2.50 or higher (4.00 scale) to take an internship, and a student on academic probation may not take an internship. If a student wishes to pursue course credit for a summer internship, it is considered a summer course and is subject to the summer session course fee.

**BIO200 - General Botany**

This course addresses the unique characteristic of photoautotrophic organisms: the capacity to capture solar radiation for the conversion of inorganic carbon to organic carbon. While addressing all photosynthetic organisms, the lecture and lab will focus on the anatomical and physiological strategies that plants have evolved in the competition for resources and how this competition in a changing environment has resulted in tremendous diversity. Students will use examples of plants from the region and throughout the world to illustrate diversity in form and function, as well as the relationships between and among plant species and their environment. Human reliance on plants for survival will be a theme in the course.

*Offered: Spring term*

*Prerequisites: BIO 101 and 102, or permission of the instructor*

**BIO201 - Genetics**

An introduction to Mendelian genetics, molecular genetics, and population genetics, discussions during this course will include problem solving, fundamentals of inheritance, linkage, chromosomal aberrations, molecular control at the gene level, gene expression, mutation, gene manipulations, polygenic inheritance, and analysis of population variation. Laboratory investigations will provide students with the opportunity to use various biological materials and organisms to collect and mathematically analyze genetic data to promote insight as to the way genetics and geneticists work.

*Offered: Spring term*

*Three hours lecture, three, hours lab*

*Prerequisites: BIO 101 and 102*

**BIO202 - Developmental Biology**

This course will provide an introduction to the major events and mechanisms of organismal development. Topics will include classical embryology such as cleavage, gastrulation, and organogenesis. Additionally, the evolutionary conservation of molecular mechanisms regulating developmental events will be emphasized. The laboratory will include anatomical, physiological, and genetic approaches to the study of developmental biology.

*Offered: Spring term*
Three hours lecture, three hours lab

Prerequisites: BIO 101 and 102

**BIO205 - Invertebrate Zoology**

This course provides students with an up-close introduction to the wonderful world of invertebrates. Students will learn to collect and identify a diverse array of invertebrate taxa with an emphasis on insects. Through lecture and discussion students will survey invertebrate phyla while focusing on their natural history and the ecosystem services that they provide.

Offered: Fall term (not every year)

Three hours lecture, three hours lab

Prerequisite: BIO 101 and 102

**BIO206 - Animal Behavior**

This course will examine the evolutionary processes that shape the behavior of animals. Course topics include the role of evolution in shaping behaviors and a survey of methods for observing, quantifying, and evaluating behavior. We will also examine the effects of behavior on the survival and persistence of individuals and populations.

Offered: Fall term

Three hours lecture, three hours lab

Prerequisites: BIO 101 and 102

**BIO209 - Vertebrate Anatomy**

Lectures on vertebrate morphology are structured around the themes of evolution and ecology. The various vertebrate groups are discussed, from fish to mammals. In laboratory, we will perform thorough dissections of the shark and the cat.

Offered: Spring term

Three hours lecture, three hours lab

Prerequisites: BIO 101 and 102

**BIO212 - Cell Biology**

This course examines the internal functioning of cells and the interactions involved in multicellular systems. Topics include structure and function of biological macromolecules, membrane transport, organelle function, signal transduction systems, extracellular matrix interactions, cytoskeletal elements, cell motility, cell cycle control, protein sorting and distribution, apoptosis, cancer, and stem cells. Laboratory activities involve the culture of different types of eukaryotic cells and utilize molecular techniques in the study of cell structure and function. The second half of the laboratory is devoted to group projects.

Offered: Fall term

Three hours lecture, three hours lab

Prerequisites: BIO 101 and 102

**BIO215 - Microbiology**

This course is designed to expose students to many different aspects of microbiology to allow them to glimpse the excitement of a dynamic scientific field. Emphasis in this course is on bacteria, viruses, immune response, microbial genomes, and applied microbiology. The laboratory is designed to prepare students to function in a clinical setting, while dealing mostly with non-pathogenic bacteria.

Offered: Fall term
Three hours lecture, three hours lab

Prerequisites: BIO 101 and 102

**BIO235 - Animal Physiology**

This course is a study of the major physiological phenomena as illustrated by members of the animal kingdom. Although mammalian physiology will be an important component of the course, the physiology of other vertebrates and invertebrates will also be considered to produce a broad comparative investigation. Lecture and laboratory will emphasize heart and muscle physiology, control and distribution of body fluids, hormonal regulation, sensory biology, and nervous function.

Offered: Fall term

Three hours lecture, three hours lab

Prerequisites: BIO 101 and 102

**BIO245 - Applied Statistics for the Life Sciences**

This course is an introduction to statistics and experimental design as used in the life sciences. Emphasis will be placed on the practical use of statistical tests. The course will examine the more commonly used parametric and non-parametric tests. By the end of this course, students will be able to determine when, why, where, and how to use statistics. Students will become well versed with using computers to examine data, run and interpret statistical tests, and formally present final results. This course assumes no prior statistical background and will be well suited for students who intend to pursue graduate study in the life sciences. This is the same course as MTH 245.

Offered: Spring Term

Three Hours Lecture

Course is not available to students who have taken MTH 225.

Prerequisite: BIO 101 or 102, or permission of the instructor

**BIO288 - Conservation Biology**

This course will be an introduction to Conservation Biology and will examine 1) the evolution of this scientific discipline, 2) the basic theory and methodologies used by Conservation Biologists to assess biodiversity loss over multiple spatial and temporal scales, and 3) the current social attitudes and governmental policies concerning the loss of biodiversity in the US and abroad. The laboratory portion of the course will incorporate case studies, current methodologies used in the field and laboratory (including GIS and GPS), and individual student research projects.

Offered: Spring Term (alternate years)

Three hours lecture, three hours lab

Prerequisites: BIO 101 or 102, EVS 100 or 101

**BIO301 - Biology Seminar**

(1/2 Course)

Under the guidance and with the approval of the biology faculty, students will select and present the results of current research published in professional journals. Discussion follows each oral presentation, providing a critical evaluation of the article and its implications. Each seminar series has a theme that varies from year to year.

Offered: Fall term

One two-hour meeting per week

Prerequisites: BIO 101 and 102, junior status, and permission of the department
**BIO302 - Biology Research Roundtable**

(1/2 Course)

This discussion-based course will provide students with an opportunity to learn how to evaluate and critically assess peer-reviewed primary research articles in the Biological Sciences. Each year the course will focus on a specific topic in the Biological Sciences and students will learn 1) how to search for relevant peer-reviewed research articles, 2) how to read primary research articles critically and assess the quality of the research presented and 3) how to effectively present and discuss the content of these articles with peers and professionals in the biological sciences.

*Prerequisites: BIO 101 and BIO 102*

**BIO311 - Molecular Biology**

This course is intended to introduce students to the concepts of molecular biology and to some of the important insights that have come from molecular approaches. Lectures will focus on how genetic information is organized, expressed, maintained, replicated, and on methods in molecular biology and genomics. Laboratories will include experiments intended to introduce students to the techniques used by molecular biologists, including analysis of DNA structure, cloning, identification, PCR, and an introduction to bioinformatics.

*Offered: Fall term*

Two hours lecture, three hours lab

*Prerequisites: BIO 101 and 102, and CHM 160 and 170, or permission of the instructor*

**BIO314 - Immunology**

Immunology is the study of the immune system -- both its helpful and harmful faces. This system is made up of a multitude of factors working together to protect us from the daily onslaught of would-be attackers, but at the same time it can turn on oneself, as seen in allergies or autoimmune disease. Today, immunology is bridging many areas of life. Immunological principles are being applied to clinical, industrial, and research realms. This course allows the student to glimpse some of the excitement present in this dynamic field of biology.

*Offered: Spring term*

Two hours lecture, three hours lab

*Prerequisites: BIO 101 and 102, and one of the following: BIO 202, BIO 212, BIO 215, BIO 311, or BCH 333*

**BIO317 - Genomics**

This course is an introduction to Genomics. Students will learn about the structure of genomes, whole genome biology and genome evolution. Students will also learn about new and rapidly changing technologies that explore genome functions, such as genome-wide RNA expression by microarray and direct sequencing. We will discuss the relatively brief history of this field, and how the technological developments of recent years are changing the way we look at genomes and organisms, including ethical and medical issues raised by the possibility of individualized genomics.

In the laboratory section, students will perform microarray experiments to look at RNA changes in different environmental conditions, and use DNA barcoding to look at species identification. Students will explore bioinformatics databases and learn how to extract and analyze genomic information, and they will apply the skills learned to data generated from their own microarray experiments.

*Prerequisites: BIO 101, 102, and one of BIO 201, 212, 215, 311 or consent of the instructor*

**BIO319 - Field Biology**

Students will develop their knowledge of natural history and learn skills for identifying common plants, birds, and mammals of Southwestern Pennsylvania (SW PA). Students will also learn methods for assessing species diversity and the distribution and abundance of individual plants and animals, and become familiar with local and regional biological conservation issues.

*Offered: Fall term*
Three hours lecture, three hours lab

Prerequisites: BIO 101 and 102

**BIO320 - Ecology**

This course is a study of the interrelations between organisms and the integration of organisms with their natural environments. Aspects of energy flow, nutrient cycling, population growth and regulation, and community organization and dynamics are considered in the context of the ecosystem. Laboratories include field work and emphasize techniques for collecting data and testing hypotheses.

*Offered: Spring term (not every year)*

Three hours lecture, three hours lab

Prerequisite: BIO 102, EVS 101, or permission of the instructor

**BIO412 - Experimental Biology**

The course is designed to acquaint students with current research topics in experimental biology. In any one session, the content will be restricted to one or two particular fields of biology, with possible variation in the subject matter from year to year.

*Offered: Spring and/or Fall term(s)*

Two three-hour lecture/lab sessions

Prerequisites: BIO 101 and 102

**BIO416 - Evolution**

This course is an introduction to evolutionary biology. It will cover topics from microevolutionary history and the geologic record. Readings from the primary literature will be used to enrich the text and to emphasize the experimental approaches used in evolution.

*Offered: Spring term*

Two hours lecture, three hours lab

Prerequisites: BIO 101 and 102

**BIO500, 501 - Independent Study**

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Prerequisites: BIO 101 and 102

**NSC210 - Introduction to Neuroscience (NSC)**

This course is intended to expose students to the world of the neuroscientist. Students will learn the subject matter of neuroscience and gain insight into the interdisciplinary nature of the field, bridging psychology and biology, as well as topics in physics and chemistry. To this end, we will examine various topics from the perspectives of these different disciplines. Examples of topics may include: cognition, motor systems, emotion,
sensory systems, development, consciousness, evolution, and pharmacology. Each module will include lecture and background information, a
discussion on a specific research question within the topic, and some type of demonstration or applied experience.

Offered Intersession

Prerequisite: One of the following courses: BIO 101 or 102, PSY 101, CHM 160, or PHY 101 or 107

NSC300 - Experimental Neuroscience (NSC)

This course will combine lectures, laboratory exercises, discussions, and independent projects to allow students to explore topics across the
breadth of the field of neuroscience. These topics will include neuroanatomy, neurophysiology, synaptic transmission, anatomy and physiology of sensory and motor systems, behavioral and cognitive neuroscience, and neural development. In the laboratory, students will learn a wide variety of experimental techniques focused on anatomical techniques, physiological techniques, behavioral techniques, and computational techniques. Through these exercises, the students will learn to design, implement, and analyze experiments. Scientific writing will be emphasized. Finally, students will learn to critically read and evaluate research as presented in the primary literature through class presentations and discussions.

Offered fall term

Prerequisite: BIO 102 or NSC 210

Business Administration

Professor: Gregor, West

Associate Professors: Gidas, Kinder (coordinator), Liberatore, Litchfield

Business administration provides students with a base of knowledge in the core business disciplines of economics, accounting, finance, marketing, quantitative analysis, and management—disciplines essential to a career in management. Students are exposed to current business issues and practices through classroom visits by active professionals and through opportunities for field trips, internships, and independent studies with organizations.

MAJOR REQUIREMENTS: ACC 211; ECN 101 and 102; BUS/MTH 131 and MTH 225; BUS 301, 302, 307, and 315. In addition, elect three courses from the business administration courses at the 300 level or higher that are not specifically required for the major. At least one of these electives must be selected from ACC 311, BUS 317, BUS 350, BUS 453, or BUS 457. A second elective must be selected from BUS 401, 405, or 406 to meet the capstone requirement for the business administration major.

The department requires that all business administration majors complete the following courses at Washington & Jefferson College: ACC 211, BUS/MTH 131 and MTH 225, BUS 301, 302, 307, and 315, and the capstone elective. A student admitted to the College after having completed any of these courses at another college or university must petition the chair of the department for special consideration in order to waive this requirement and transfer any of the required courses to his or her major at W&J.

MINOR REQUIREMENTS: ACC 211; ECN 101; BUS 300 or 302; BUS 301 and 307. Elect one additional course at the 300 or 400 level. The department requires that ACC 211 and ECN 101 be completed at W&J by all students who minor in business administration. A student admitted to the College after having completed these courses at another college or university must petition the chair of the department for special consideration in order to waive this requirement and transfer either of these required classes to his or her minor at W&J.

NOTES: Students majoring or minoring in Business Administration may not also major or minor in Accounting. Students majoring in Business Administration may obtain a minor in Economics, but not a double major in Economics or Financial Economics.

BUS100 - Contemporary American Business

This course will provide students with an overview of the structure of contemporary American businesses. The major forms and functional areas of business will be examined as well as the role of business in the modern political, social, and economic environment. The development of business and management from colonial times to the present also will be reviewed. This course is not open to students who have completed BUS courses at the 300 level or above.

BUS131 - Calculus for the Business Sciences
This course covers functions, limits, continuity, and the processes of differentiation and integration with an emphasis on practical applications. Additional topics include the calculus of logarithmic and exponential functions and an introduction to multivariable calculus. Students who have successfully completed MTH 151 or its equivalent will not be given credit for this course. This course is not available to freshmen with AP calculus credit. This course does not count towards a major or minor in mathematics. This is the same course as MTH 131.

Offered: Fall and spring terms

Prerequisite: Freshmen must have a placement score of at least 15. No prerequisite for non-freshmen.

**BUS150 - Introduction to International Commerce and Culture**

This course will examine the environment and management of international business: What is unique about international business? What drives it? How is it done? This course also will cover the effects of environmental influences upon the managerial functions such as marketing, finance, personnel, and accounting. This course is not open to students who have completed BUS courses at the 300 level or above.

**BUS300 - Fundamentals of Finance**

A non-calculus based examination of corporate funding sources, investment criteria, and the role of financial planning in the overall context of corporate activity. This course does not count towards accounting or business administration majors. This course is specifically designed for international business majors and business minors and is not open to business majors. Students who have successfully completed BUS 302 may not enroll in BUS 300.

Prerequisites: ECN 101 and ACC 211

**BUS301 - Organizational Behavior and Management Principles**

A course designed to introduce the student to the origins of management and the contributory bodies of knowledge that have been emphasized. The various functions and areas of management are stressed with special emphasis being placed on decision making.

Prerequisite: ECN 101

**BUS302 - Principles of Finance**

This course is an introduction to basic concepts of finance, including valuation, investor decision making and corporate decision making, and their application in various areas within finance.

Prerequisites: ACC 211, ECN 101, MTH 225

**BUS307 - Marketing**

A study of motivation and behavior of the individual consumer, the industrial purchaser, the government, and institutional buyer, this course studies pricing, product planning and promotion, market research, and analysis.

Prerequisite: ECN 101

**BUS315 - Operations Management**

As an introduction to management science, this is a course that will focus on tools and techniques used to analyze and solve management decision problems. Application and interpretation of methodology in case studies of transportation, assignment, project planning, and inventory problems. Computers used in analysis of these problems and in simulating and forecasting.

Prerequisites: BUS/MTH 131, MTH 225, and ECN 101

**BUS317 - Operations Research Methods**

Operations Research describes the systematic application of a wide variety of quantitative methodologies with a view towards arriving at optimal or near optimal solutions related to the performance and/or efficiency of complex systems. This course is designed as a follow-up to BUS 315, Operations Management, and will present a wide range of modeling techniques including
physical, analogic, simulation, and the mathematical modeling techniques of genetic algorithms, tabu search, evolutionary programming and simulated annealing. Particular attention will be paid to the optimum seeking and heuristic techniques of linear programming and discrete event simulation respectively with a view towards providing students a working knowledge of these methods and the software platforms designed for them.

Prerequisites: BUS 315

**BUS319 - Business Law**

A study of the nature, formation, and application of our legal system as a means to social, political, and economic change, this course emphasizes legislation and judicial decisions that have led to a regulated economy and which, at the same time, provide an overview of the major areas of basic substantive law.

Prerequisite: ECN 101

**BUS320 - Business Law II**

A study of advanced legal subjects, primarily in the area of administrative and constitutional law, as pertain to the business environment and including the legal aspects of the various forms of business organizations and utilizing examination of statutes, court cases, and ethical considerations in application of the law.

Prerequisite: ECN 101, BUS 319

**BUS350 - Human Resource Management**

This course includes the study of personnel management and industrial relations, unions and labor legislation, collective bargaining, recruitment, interviewing techniques, testing, training, employee benefits, and other employee relations problems and ideas.

Prerequisite: ECN 101

**BUS395 - Corporate Failures and Scandals**

This course is study of management and executive failures, frauds, and scandals throughout history with an emphasis on current activities in the business world. Through case analysis and research, students will develop a framework for analyzing failures and identifying their probable causes and explore the resulting legal and regulatory issues. Classroom discussion and presentation are a significant component of the course.

Prerequisites: BUS 301, BUS 302, and BUS 307

**BUS401 - Small Business Analysis**

This course is a capstone experience for upper-division business students who act as management consultants to the owners/managers of small businesses. As a member of a team of consultants, students have the opportunity to integrate management theory and practice, thought and action. They use their analytical, problem-solving, and communications skills to suggest courses of action to improve the operations of their client businesses. In accomplishing this task, students apply their knowledge of the separate business disciplines of management, finance and accounting, marketing, and human resources to the solution of actual management problems.

Prerequisites: BUS 301, 302, 307, and 315

**BUS405 - Business and Society**

This course develops concepts pertaining to the establishment of corporate policy and management strategy as they relate to social problems and environmental factors affecting business. Key concepts include the issue of corporate social responsibility and human values and their effect on management decisions, business and government relationships, business and technology, and the physical environment. Applications of these concepts will be illustrated with contemporary social problems and case studies. This course meets the capstone requirement for the business administration major.

Prerequisites: BUS 301, 302, 307, and 315
BUS406 - Strategic Management

This course is a capstone of previous departmental and other business-related courses and is designed to integrate the several skills previously learned into a concept of general management. Emphasis will be on policy and strategy issues. In addition, by means of extensive reading assignments and case study analysis, it seeks to broaden the students' knowledge and awareness of the emerging issues and concerns that affect our system of capitalist enterprise.

Prerequisites: BUS 301, 302, 307, and 315

BUS451 - International Management

This seminar covers the substantive differences between domestic and international dimensions of management. Topics covered include internationalization of the firm, industry globalization, international strategy framework, strategy implementation requirements, management of relationships with nation-states, cross-cultural management techniques, international human resources management, and labor relations as well as the conducting of international business research.

Prerequisites: BUS 300 (or 302), BUS 301, and ECN 101 and 102

BUS453 - Global Supply Chain Management

This course is designed to help the student understand the relationship between supply chain management and strategic management of the firm. Students will learn how to analyze the flow of information and materials from suppliers to customers and back, in a technologically efficient and effective process. Both the theory and practice of modern supply chain management will be reviewed through readings and case studies.

Prerequisites: ECN 101 and 102; BUS 301, and BUS 300 or 302

BUS457 - International Marketing

This seminar covers the substantive differences between domestic and international marketing concepts and strategies with particular emphasis on organizational philosophies, international segmentation, and the influence of culture on the development of the marketing plan. Critical issues dealing with standardization versus adaptation strategies, counterfeiting and the protection of industrial property, distribution alliances, and export marketing are discussed, as is the conducting of international market research.

Prerequisites: BUS 307 and ECN 101 and 102

BUS497 - Advanced Topics in Business Administration, Current Problems in Business Administration, or Small Business Problems and Strategy

The class schedules and students' transcripts will indicate specific course offerings and completions.

Prerequisites: Will vary according to topic

BUS500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.
Prerequisites: Will vary according to topic

Chemistry

Professor: Brletic

Associate Professors: Harris, Iuliucci, Leonard (chair), Matsuno, Malinak

Assistant Professor: Logan

Visiting Assistant Professor: Sunderland

NSF Postdoctoral Teaching Fellow: Quinones

The goals of the Department of Chemistry are to instill in all students an appreciation and understanding of chemistry and the methods of scientific inquiry and to develop the appropriate skills, knowledge, and personal qualities that prepare citizens to understand chemically oriented issues and that prepare students for careers in chemistry and its allied fields.

MAJOR REQUIREMENTS: A minimum of nine CHM courses, including 160, 170, 260, 270, 300 (or BCH 333), 360, 365, 370, and 380 or 480 plus electives numbering above 300, PHY 101 or 107, PHY 102 or 108, and MTH 151 and MTH 152.

Students may elect a chemistry major approved by the American Chemical Society by completing CHM 160, 170, 260, 270, 300 (or BCH 333), 360, 365, 370, 380, 460, 470, 480, 500, PHY 101 or 107, PHY 102 or 108, MTH 151, 152, and one from MTH 208, 217, or 308.

The chemistry department also contributes to the biochemistry major. Please refer to the catalog listing for further information on this course of study.

MINOR REQUIREMENTS: CHM 160, 260, 270, the equivalent of two CHM courses at the 300 level or higher, and the equivalent of one additional CHM course numbering 170 or above. Either CHM 300 or BCH 333, but not both, can be used to satisfy the minor requirements.

CAPSTONE EXPERIENCE: The capstone experience for the chemistry major will consist of two parts. One will be the successful completion of CHM 365: Chemistry Seminar with a grade of C- or better. In addition, all chemistry majors will take a standardized, comprehensive exam during their senior year. The exam will give students the opportunity to apply knowledge from their accumulated coursework and will allow the department to assess its instructional efforts.

AP Policy: Students scoring a 4 or 5 on the AP Chemistry test will receive credit for CHM 100.

TEACHER CERTIFICATION: Students may seek Secondary Education (7-12) Certification in Chemistry by completing the Chemistry major and an Education minor consisting of those courses required for Secondary Education (grades 7-12) Certification. Before being formally admitted to the program, students must satisfy-by the end of the sophomore year-the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

CHM101 - Chemistry of the Environment

This course teaches the fundamental concepts of chemistry as they apply to the world around us. The impact of chemistry in the context of social, political, and economic issues is emphasized. Through the study of environmental topics such as air quality, water quality, and alternative energy sources, students develop analytical skills and the ability to assess risks and benefits. They also discover the theoretical and practical significance of chemistry, and directly experience chemical phenomena through laboratory experimentation. The course is designed for non-science majors and will satisfy the laboratory science requirement.

Three hours lecture, three hours lab

CHM102 - Chemistry of Brewing

This course introduces the fundamental concepts of chemistry and biochemistry as they apply to brewing, a process that dates back to the ancient Sumerians. Topics will include the history of brewing, brewing ingredients, the brewing process, beer styles, and evaluating beers. Students will apply their knowledge through experimentation involving malting, mashing, fermentation, and quality control. The class will also focus on a key chemical component, ethanol - what it is, sources and uses, fate in the body, and social implications of abuse. This course will satisfy the laboratory science requirement.
CHM147 - Topics in Chemistry

(Half to full course as determined by instructor)

The topics will vary from offering to offering as determined by faculty interest. Topics may include the chemistry of beer and brewing, nutritional chemistry or food chemistry. The course is designed to provide students with the fundamental chemical principles as applied to everyday life.

Prerequisites: Determined by instructor

CHM160 - Organic Chemistry - Structure and Fundamentals

This course introduces general chemistry concepts and is the first course in a systematic study of the standard nomenclature, reactions, preparations, and characteristic properties of the principal classes of carbon compounds. Emphasis will be placed on developing an understanding of stoichiometry; the electronic structure of atoms and molecules; conformation, configuration, and functional groups as related to a deeper appreciation of molecular structure; and the use of reaction mechanism to predict products and design syntheses. Examples from biochemistry will be included throughout the course. Laboratory experiments will introduce students to standard techniques (extraction, recrystallization, distillation, gas chromatography, stoichiometric calculation, and reporting of yields) as well as molecular modeling computer software. Organic compounds will be synthesized and characterized.

Prerequisites: Determined by instructor

CHM170 - Organic Chemistry - Reactions and Synthesis

This course will build upon the concepts introduced in CHM 160. A number of standard organic compounds, reactions, and mechanisms will be addressed including aromatic systems, substitution and elimination reactions, and carbonyl chemistry. Laboratory work, designed to reinforce and complement concepts from lecture, will include a number of syntheses followed by product characterization by spectroscopy and/or chromatography.

Prerequisite: CHM 160 (with a grade of C- or better)

CHM260 - Introduction to Inorganic Chemistry

This course will explore many of the fundamental models and theories that chemists employ in their attempts to understand the physical world, with an emphasis on inorganic systems. Topics will include introductory quantum mechanics; the electronic and nuclear structures of the atom, including nuclear chemistry; bonding theory of covalent molecules and inorganic complexes; electronic and magnetic properties of inorganic complexes; models describing the solid, liquid and gas states; kinetics; equilibria involving gases and inorganic complexes; thermodynamics; and electro-chemistry. The laboratory work is designed to reinforce concepts from the course and to introduce several laboratory techniques.

Prerequisites: CHM 160 and MTH 111 (with a grade of C- or better in each)

CHM270 - Analytical Chemistry

This course in chemical analysis focuses on the fundamental principles of quantitative analysis and chemical equilibrium. Topics include solution equilibria (acid-base, precipitation, complexation, and oxidation-reduction), acid-base theory, statistical treatment of data, error analysis, sampling and design of experiments, separations, and spectroscopic methods. The laboratory involves gravimetric, titrimetric, and colorimetric analyses along with selected separation techniques and spectroscopic methods as applied to problems in biochemistry, environmental science, and forensic chemistry.

Prerequisites: CHM 160, 260, and MTH 111 (with a grade of C- or better in each)
CHM300 - Biological Chemistry

This lecture-only course is designed to introduce the major concepts of biological chemistry. A treatment of the structure of major biomolecules and the architecture of biological cells will lay a foundation for discussion of various aspects of metabolism including cellular respiration, biosynthesis, and regulation of metabolic cycles. Aspects of biological equilibria, thermodynamics, and enzyme mechanisms also will be considered.

Three hours lecture

Prerequisites: CHM 160, 170, 260, 270, and MTH 111

CHM320 - Intermediate Organic Chemistry

This course will bridge the gap between the Introductory and Advanced Organic Chemistry courses through a comparison of classical synthetic methods to approaches employed in the modern literature. Additional reaction paradigms, such as radical and organometallic, will be introduced. Organic structure determination using advanced spectroscopic methods will also be discussed.

Three hours lecture

Prerequisites: CHM 160, 170, 260, 270, and MTH 111

CHM347 - Special Topics in Chemistry

(Half to full course as determined by instructor)

The topics will vary from offering to offering as warranted by student and faculty interest. Topics may include nuclear chemistry, polymer chemistry, industrial chemistry, environmental chemistry, forensics, geochemistry, materials science, the history of chemistry, or food chemistry.

Prerequisites: Determined by instructor

CHM350 - Bio-organic Chemistry

(1/2 Course)

This lecture-only course will focus on the organic chemistry of proteins, nucleic acids, and carbohydrates. Specific topics to be addressed may include synthesis of proteins and nucleic acids, enzyme and coenzyme mechanisms, and the biological roles of carbohydrates.

Two hours lecture

Prerequisites: CHM 160, 170, 260, 270, and MTH 111

CHM360 - Thermodynamics and Kinetics

This course in physical chemistry has as its focus thermodynamics and kinetics especially as related to chemical and engineering practices. Topics covered include kinetic molecular theory of gases, properties of ideal and real gases, transport phenomena, rate laws and reaction mechanisms, theories and measurement of reaction rate, the laws of thermodynamics, thermochemistry, spontaneity and equilibrium, systems of variable composition, phase equilibria, phase diagrams, real and ideal solutions, and properties of solutions. The laboratory is designed to develop skills necessary for independent research involving projects of a physical nature.

Three hours lecture, three hours lab

Prerequisites: CHM 160, 260, and 270; MTH 151 and 152; and PHY 101 or 107, PHY 102 or 108

CHM365 - Chemistry Seminar

(1/2 Course)

Upon completion of the course, students will be able to effectively communicate and discuss information obtained from the
primary chemical literature and scientific presentations. In addition to attending seminars outside of class, students will select and present the results of current research published in professional journals. Discussion will follow each oral presentation, providing a critical evaluation of the article and its implications. Techniques for giving an effective oral presentation in the sciences, searching the primary literature, and becoming an active listener will also be provided.

Weekly seminar

Prerequisites: CHM 160, 170, 260, and 270; MTH 151 and 152; PHY 101 or 107, PHY 102 or 108; and either CHM 360 or 370 as a pre- or co-requisite.

CHM370 - Quantum Mechanics

The goal of this course is to emphasize the physical principles of chemistry from the molecular level. Since all materials are really a collection of atoms and/or molecules, one can achieve an understanding of their macroscopic properties by studying the laws that govern subatomic particles, atoms, and molecules. To do so, a fundamental understanding of quantum mechanical principles, the laws that relate to atomic and subatomic particles, as well as statistical mechanics, the laws that describe an ensemble of particles, must be developed. All topics of quantum chemistry will be covered, i.e. atomic structure, molecular structure, and spectroscopy. The fundamental principles of statistical mechanics such as the partition function, the Boltzmann distribution, and the canonical ensemble will be discussed. Using these results, thermodynamic properties will be predicted in order to make a correspondence between the microscopic and macroscopic world. Computer modeling will be used to assist in the meaning of these abstract principles and to help the student overcome the mathematical complexities associated with physical chemistry. The laboratory component of this course will focus primarily on computational chemistry techniques and the analysis of spectroscopic data.

Three hours lecture, three hours lab

Prerequisites: CHM 160, 260, and 270; MTH 151 and 152; and PHY 101 or 107, PHY 102 or 108

CHM380 - Synthesis Laboratory

(1/2 Course)

This laboratory-only course is designed to provide experience in a variety of advanced techniques used in the preparation and characterization of organic and inorganic products. These techniques will include asymmetric synthesis, inert atmosphere synthesis, chromatography, and application of spectroscopy, as well as other appropriate supplemental techniques.

Six hours lab

Prerequisites: CHM 160, 170, 260, 270, and MTH 111

CHM420 - Advanced Organic Chemistry

This course will provide an in-depth study of organic topics. These topics may include chemical bonding and structure, molecular orbital theory, stereochemistry (including prochirality), conformational and steric effects on structure and reactivity, the study of organic reaction mechanisms, and concerted pericyclic reactions.

Three hours lecture

Prerequisites: CHM 160, 170, 260, 270 and 320; MTH 151; PHY 101 or 107, PHY 102 or 108; and either CHM 360, 370, or BCH 320 as a pre- or co-requisite.

CHM460 - Advanced Inorganic Chemistry

This course will explore many of the fundamental principles of inorganic chemistry, with significant emphasis on group theory, molecular orbital theory, angular overlap theory, coordination chemistry, organometallic chemistry, and bio-inorganic chemistry. Specific topics will vary, but will generally include coverage of atomic structure, simple bonding theory, donor-acceptor chemistry, the crystalline solid state, coordination compounds and isomerism, electronic and infrared spectroscopy applied to inorganic complexes, substitution mechanisms, and catalysis.

Three hours lecture

Prerequisites: CHM 160, 170, 260, 270; MTH 151 and 152; PHY 101 or 107, PHY 102 or 108; and CHM 370 as either a pre- or co-requisite.
CHM470 - Principles of Instrumental Analysis

This lecture course covers the principles behind and the techniques associated with chemical measurements that utilize scientific instrumentation. Chemical measurements are designed to provide the most accurate and precise information possible and, to acquire information to this level, chemical techniques must be understood in terms of detection limit, sensitivity, and/or spectral resolution. Chemical information obtainable from various techniques will be presented. A particular emphasis will be given to spectroscopic techniques and detectors. Error analysis and data processing techniques that reduce or filter instrument noise and provide signal enhancement will be introduced.

*Three hours lecture*

Prerequisites: CHM 160, 170, 260, 270, and 370; MTH 151 and 152; and PHY 101 or 107, PHY 102 or 108

CHM480 - Chemical Measurements Laboratory

(1/2 Course)

Advanced chemical measurements typically involve instruments that utilize state-of-the-art technology. This laboratory course provides students the hands-on experience with scientific instrumentation that is commonly used for chemical analysis. Opportunity will be provided to expose students to basic electronics and the major components of instruments. The techniques of chemical separations, electrochemical methods and spectroscopy will be explored. An understanding of the physical and chemical principles behind each method as well as the processes that limit the chemical measurement will be conveyed through formal laboratory reports.

*Six hours lab*

Prerequisites: CHM 160, 170, 260, 270, and one from 360, 370, and BCH 320; MTH 151; and PHY 101 or 107, PHY 102 or 108

CHM500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Child Development and Education

Professors: Bennett, Carpenter, Cavoti (chair), Crabtree, R. Easton, Longo (chair), Wilson

Associate Professors: Klitz, McDonald

Instructors: Bunting, Day, P. Easton, Petchel, Podgurski, Wagner

Child development and education is an inter-departmental major that offers a holistic approach to how children learn, focusing on development from birth through childhood. The major combines coursework in education and psychology. The requirements have been selected to provide students with a firm grounding in developmental psychology and the principles of elementary instruction and assessment. This curriculum has been designed to prepare students with an understanding of the developmental needs and cognitive abilities of students across a broad range of situations and academic disciplines. Students majoring in Child Development and Education have the option to seek certification in the State of Pennsylvania for Early Childhood (Pre-K to 4) or Middle Level (4-8).
MAJOR REQUIREMENTS: All students must successfully complete a minimum of 13 courses in psychology and education plus a capstone experience: Psychology: PSY 101, 102, 225, 265, 275; Education: EDU 201, 207, 301, 302, 303, 304, 350, and either PSY 330 (non-certification track only) or EDU 403 (either track).

CAPSTONE EXPERIENCE: EDU 406 and 407 (certification) or 408 and 409 (non-certification).

CERTIFICATION AREAS: Students seeking any teacher certification must also complete the Certification Program Requirements. See the Education (Teacher Certification) section of the catalog for more information.

Early Childhood (PreK-4): Students seeking certification to teach at the early childhood level (PreK-4) must also take additional specific academic content courses: one English composition course such as ENG 111 or 112 and one English literature course, two math (MTH 123 and 124), history (colonial HIS 201), geography (EDU 205), PED 200, and science (two approved science courses with one as an approved lab science for certification). For more information please see Handbook for Students Seeking Certification to Teach available in the W&J Education Office.

Upper Elementary (4-8): Students majoring in Child Development and Education who wish to seek Upper Elementary (4-8) certification will also minor in a specialization area by selecting one of the following minors:

- Minor in Biology or EVS for science grades 4-8
- Minor in English for language arts grades 4-8
- Minor in History for social studies grades 4-8
- Minor in Mathematics (two options available) for math grades 4-8

See the catalog section for the appropriate discipline for the details of the minor requirements. The other option for certifying in Upper Elementary (4-8) involves majoring in a discipline and completing a selection of education courses. See the sections of the catalog for the appropriate discipline and Education (Teacher Certification) for more information about this option.

Special Education PreK-8: Students who would like to add Special Education PreK-8 to their certification in either PreK-4 or Upper Elementary (4-8) need to complete additional designated coursework in special education to qualify for “dual certification in special education PreK-8.” The required courses are EDU 221 School Law, EDU 309 Individualized Instruction, EDU 321 Diagnostic Teaching, and EDU 250 Teaching Internship (with Special Education focus). For more information please see Handbook for Students Seeking Certification to Teach available in the W&J Education Office.

Chinese

China is a land of superlatives—the Chinese language can become the doorway into the opportunities and intellectual stimulation afforded by four thousand years of culture and a fifth of the world's population. Courses in Chinese are offered by the Department of Modern Languages.

PLACEMENT PROCEDURES: All students taking a language at W&J must take the student information questionnaire prior to enrollment in that language. Students with a background in this language must also complete the computerized adaptive placement exam (CAPE). Incoming freshmen will usually take the exam prior to registration during summer orientation, but the exam may be administered at any time. The results of the questionnaire and exam will usually determine the level at which a student will begin a course of study in the language. A student who falls at the high or low end of a scoring range may be placed higher or lower than the course indicated, depending on the number of years of language the student has had. Placement in these situations is done in consultation with a faculty member from the relevant program. Because of the varying requirements for completing a major or minor in language, it is to the student's advantage to begin at the highest level possible.

AP Policy: Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.

CHN105, 106 - Elementary Chinese I, II

An introduction to the basics of spoken Mandarin with an emphasis on performance in culturally appropriate ways. Students engage in conversations, provide and obtain information, express feelings and emotions, exchange opinions in Chinese, and become familiar with the foundations of the Chinese writing system.

Taught largely in Chinese.

Prerequisite: CHN 105 for CHN 106

CHN207, 208 - Intermediate I, II

Intended for students who have completed the first-year sequence or its equivalent in Mandarin, these courses develop listening and speaking skills as well as skills in reading and writing Chinese characters. In addition to addressing situations in
contemporary Chinese, courses will create in the students an awareness of culture in China.

_Taught largely in Chinese._

**Prerequisite: CHN 106 for 207; CHN 207 for 208**

### CHN309 - Advanced Chinese I

This course focuses on the development and application of advanced functional Chinese language skills, with emphases on speaking and writing. Reading and cultural skills are developed through a content-based approach with concentration on contemporary Chinese issues.

_Taught largely in Chinese._

**Prerequisite: CHN 208, or the permission of the instructor.**

### CHN310 - Advanced Chinese II

This course focuses on the development and application of advanced Chinese language skills, with emphases on reading, speaking and writing. A variety of texts, web sites and selected videos serve as departure points for daily discussions, assignments and presentations. Included in the course are reviews of grammar topics. CHN 310 is offered traditionally in the spring term.

_Taught largely in Chinese._

**Prerequisite: CHN 309, or the permission of the instructor.**

### Communication Arts

**Professors:** Cameron, Frank (chair)

**Associate Professors:** Fleury, Maresh

Study of Communication at Washington & Jefferson College is grounded in human interaction, in sight and sound, in the arts of rhetoric and theatre. Each of the contributing arts has a long-standing interest in citizenship. Theatre is the art that helps a community reflect upon its problems, and rhetoric is the art of argument through which a community manages and solves its problems. These communal arts are the focus of W&J’s Communication Arts program, which examines interactions between and among artists, speakers, writers, and audiences--citizens all.

**MISSION:** The goal of a major in Communication Arts is to provide students with an opportunity to develop analytic knowledge and practical skills in Communication through the study of the oral, visual, and performative arts.

**MAJOR REQUIREMENTS:** COM 100, COM 500 (Capstone), and eight additional courses as follows: one additional introductory course from COM 120, COM 130, COM 140, or THR 181; one performance course from COM 218, COM 220, THR 180, or THR 280; three advanced courses (at least two must be COM courses) from COM 320, COM 330, COM 340, COM 360, COM 381, THR 379, THR 399; and three electives from any of the above courses or other COM designated courses not used to fulfill other major requirements.

**Communication Arts Capstone (COM 500):** The Communication Arts capstone brings together the skills and knowledge developed through study in the major. Capstone Projects may be perfected through a co-curricular program of the student’s choice—or through an approved internship or other individual or group project developed by either students or faculty. The Capstone Project will not only explore a student’s interests but also provide him or her with the opportunity to present the work to an invited or public audience. It is recommended that students complete their Capstone in the first semester of the senior year.

A student majoring in Communication Arts may not major in Theatre. Any courses applied to the Communication Arts Major may not count toward a Theatre Minor.

**MINOR REQUIREMENTS:** A total of at least six courses as follows: one introductory course from COM 100, COM 120, COM 130, COM 140; one performance course from COM 218, COM 220, THR 180, THR 280; two advanced courses (at least one must be a COM course) from COM 320, COM 330, COM 340, COM 360, COM 381, THR 379, THR 399; and two electives from any of the above courses or other COM designated courses not used to fulfill other minor requirements.

Students may count no courses for their minor in Communication Arts toward a major or minor in Theatre.
COM100 - Introduction to Communication Arts

This course introduces basic elements of the human communication process. It provides an overview of the models, contexts, agents, purposes and ethics of communication, and enables the student to answer essential questions concerning the field: what is communication, where does it happen, who communicates, how can we communicate artfully, and how do we communicate ethically? The course also explains how Communication Arts and its associated programs facilitate a student’s pursuit of a liberal education.

Closed to Seniors, half of the seats reserved for Freshmen and Sophomores

COM120 - Introduction to Rhetoric

This course is an introduction to ancient and current theories of rhetoric as a discipline within the field of communication. Building upon general speaking and writing skills, the emphases in this course are analysis and criticism of the art by which discourse is adapted to its end. Since the classical Greek period, rhetoric has been a discipline centrally concerned with effective citizenship, with discourse as the vehicle through which individuals participate in communal life. This is a Group 1 course for the Professional Writing concentration.

Half of the seats are reserved for freshmen and sophomores

COM130 - Film Art

This course is an introduction to narrative film as an artistic form and cultural practice. Students in the course examine relationships between image and reality, relationships between artistic process and social meaning and film genres.

Half of the seats are reserved for freshmen and sophomores

COM140 - Culture and the Media

This course is a survey of the history, theories, and processes of the mass media. It examines the technological developments, ethical issues, and societal impact of a variety of mass media, including television, radio, print journalism, motion pictures, recorded music, and the Internet.

Half of the seats are reserved for freshmen and sophomores

COM218 - Storytelling

This course is for students interested in learning how to tell a story. The course investigates the connections among the teller, the story, the audience, and the universal themes found in myths, folk tales, and modern narratives. Built on speaking, not writing, the course also is designed to open the storyteller to a new understanding of the self.

Half of the seats are reserved for freshmen and sophomores

COM220 - Public Speaking

An introduction to argument, exposition, and narration as basic repertoires of thought and action for public speaking, this course addresses issues of purpose, structure, content, delivery, and audience in the invention, performance, and critique of basic oral communication styles.

Half of the seats are reserved for freshmen and sophomores

COM250 - Topics in Communication

A course exploring a particular topic in Communication Arts not covered in regular catalog courses.

Half of the seats are reserved for freshmen and sophomores

COM320 - Rhetoric and Power
An examination of how power is concentrated and deployed in various contexts via repertories of rhetorical conventions. Students investigate a range of strategic practices (e.g. public speaking, gossip, writing, bodily display, silence, incivility, spatial relationships, jurisdiction) as the building blocks of communication styles (e.g. radical, realist, republican, courtly, bureaucratic) and explore ethical questions relevant to the exercise of specific styles.

*Prerequisite: One communication course*

**COM330 - Film in Context**

This course is an examination of motion pictures as cultural artifacts, shapers of society, and modes of discourse. It examines a group of films organized around a subject area (war, politics, crime, gender roles) or an historical era (the Depression, Post-World War II America, the Vietnam Era). Genre and/or philosophical approaches to film also may serve as the basis of the course in a given semester. The course challenges students to draw meaningful parallels between motion pictures and the society from which they emerge.

*Prerequisite: One communication course*

**COM340 - Television and American Culture**

This course is a survey of television, its history and technology, and an investigation of the current culture. It explores the relationship between the medium and the society it reflects and shapes. A major goal will be the development of a personal, critical perspective on television and culture.

*Prerequisite: One communication or one theatre course*

**COM360 - Community Radio**

This course is an advanced study of general principles of communication in a specific medium. Both critical and practical, the course covers radio history and performance, particularly as it has shaped and is shaped by culture. Students prepare programming for WNJR (the college radio station) and speak on the air, hosting a live radio program outside of class.

*Prerequisites: One communication course*

**COM381 - Screenwriting**

This course enables the student to develop a screenplay. Through a series of lectures, discussions, in-class writing exercises, and take-home assignments, the course leads the student through the story proposal, the treatment, and the first draft of a full-length screenplay. Included are workshops on "pitching film stories."

*Prerequisites: One communication or one theatre course*

**COM500 - Capstone Experience**

This course brings together the skills and knowledge developed through study in the major. Capstone Projects may be perfected through a co-curricular program of the student’s choice—or through an approved internship or other individual or group project developed by either students or faculty. The Capstone Project will not only explore a student’s interests but also provide him or her with the opportunity to present the work to an invited or public audience. It is recommended that students complete their Capstone in the first semester of the senior year.

**Computing and Information Studies**

*Professor: Hannon*

*Associate Professors:* Fee, Holland-Minkley (chair), North

*Visiting Assistant Professor:* Lombardi

Designed to be an interdisciplinary program, the Computing and Information Studies curriculum comprises aspects of history, sociology, psychology, communication, art, design, science, and mathematics. The program stresses problem solving and effective communication skills while addressing issues in computational thinking, visual culture, interaction design, information management and analysis, systems development, and security.
The major and minor in CIS have been designed to give students a strong background in a breadth of approaches to computing; students with an interest in a particular subfield within computing are encouraged to consider other programs or concentrations associated with the program as well, such as Environmental Studies; Film and Video Studies; Graphic Design; Mind, Brain, and Behavior; or Professional Writing. Students majoring in other fields looking for a computing course to complement their studies are encouraged to consider CIS 100, CIS 112, CIS 246, CIS 271 or CIS 275.

**MAJOR REQUIREMENTS:** 11 CIS courses, including CIS 100, 102, 112, 271, either CIS 301 or CIS 310, and CIS 400 (the capstone experience). In addition, students must take at least one additional course with each of the following designations: Coding and Production, Design and Interaction, and Analysis and Modeling. At least four of the eleven total courses must be at the 300-level or higher.

Notes: These requirements allow students significant flexibility in course selection. Majors should work closely with their advisor to select a path through the curriculum that best fits their long-term career or graduate study goals. Elective courses may carry multiple designations but students may not use a single course for more than one category. Students completing a senior honors project may have the CIS 400 requirement waived, with the approval of the department, but still must take 11 CIS courses total, including independent studies. Majors are strongly encouraged to pursue at least one professional summer or intersession internship during their course of study.

**MINOR REQUIREMENTS:** Six courses, including CIS 100, two of CIS 102, 112 or 275, one additional course designated Design and Interaction, and one additional course designated Analysis and Modeling. At least one of these six courses must be at the 300-level or higher. While minors do not have official academic advisors within the department, they are also encouraged to consult with one of the CIS faculty in planning their coursework.

**AP Policy:** Students scoring a 4 or 5 on the Computer Science A or AB test will receive credit for CIS 102 upon successful completion of CIS 221.

**CIS Elective Designation Descriptions**

**Coding and Production**
These courses require students to undertake significant implementation or construction projects that strengthen their development skills. This may include programming projects, database implementations, film development, or other courses where at least half the student's time is spent on creation and development.
Courses: CIS 221, CIS 275, CIS 349, CIS 351, CIS 361, CIS 365, CIS 380, CIS 425

**Design and Interaction**
These courses require students to focus on designing content or systems that are both aesthetically pleasing and intuitively useful to varying audiences. Students will focus the bulk of their time on understanding user audiences and then designing user experiences, content or systems such as digital media, web sites, mobile applications, or information systems that effectively meet the needs of those users.
Courses: CIS 246, CIS 271, CIS 275, CIS 301, CIS 349, CIS 361, CIS 365, CIS 380, CIS 425

**Analysis and Modeling**
These courses engage students in using various tools and techniques for understanding authentic problems and creating functional information technology solutions. Students will use methods from data mining, networking, artificial intelligence, systems analysis, or related disciplines to test, evaluate, document and recommend solutions to real-world problems.
Courses: CIS 207, CIS 221, CIS 241, CIS 246, CIS 310, CIS 330, CIS 335

**CIS100 - Information Technology & Society**
A survey of information technology innovations that changed society in fundamental ways within the context of a more broadly defined discussion of the "history of technology." Topics within the history of information technology include the development of the integrated circuit, the personal computer, the Internet and the World Wide Web, etc. Topics within the history of technology (broadly defined) include ethical, legal, environmental, and feminist issues involved in the development and implementation of new technologies. The course entails a combination of historical overview and a number of individual case studies of technology development and implementation. The latter will focus on issues of leadership, the identification and solution of complex problems, and the unexpected consequences of technological advances.

**CIS102 - Introduction to Programming**
This course is an introduction to object-oriented programming with an emphasis on program design, problem solving, methodology, and algorithms. Students will master the fundamental concepts and structures common to programming.

**CIS112 - Database Concepts**
An overview of the role of databases within a variety of academic, business, and governmental organizations, and an introduction to database design and management. Students will be required to create databases related to their major fields or areas of academic interest using both small business and enterprise-class database management systems.

**CIS207 - Networking Foundations**

In this project-based course on networking, students develop the foundational knowledge and skills required to apply networking models and techniques to problems of data analysis. Students will use network modeling software to model, analyze, and visualize complex network systems. The course includes topics such as TCP/IP networking, the OSI model, network topologies, and the analysis of networks in the humanities, social sciences, and sciences.

**CIS221 - Data Structures**

A second-level course in programming that focuses on classic data structures and their associated algorithms. Students will learn how the organization of data within a program affects the efficiency of the program, and how algorithms and data structures can work together to support the most efficient code for the particular problem being solved. Students will put these tools to practice in order to create robust, interesting software applications.

*Prerequisite: CIS 102*

**CIS241 - Introduction to Data Mining**

An introduction to the concepts and practices involved in data mining, this course addresses data mining activities in three phases: data preparation (or preprocessing), mining techniques, and classification and analysis. These concepts will be taught using industry-standard tools for data mining activities. Projects and assignments will be completed as students organize and mine data sets taken from various disciplines of study including marketing, finance, and natural and social sciences.

*Prerequisite: None*

**CIS246 - Geographic Information Systems**

A survey course in Geographic Information Systems (GIS) designed to provide functional knowledge of GIS theory and applications. The course is appropriate for any major or minor where the student may be interested in learning to create and analyze layered digital maps. The course will be taught using a combination of lectures, demonstrations, and hands-on interactive tutorials in the classroom. Course topics include display and query of spatial data, map overlay and production, global positioning systems (GPS), and the application of spatial analytical tools to answer questions, solve problems, and make decisions.

*Prerequisite: At least sophomore standing*

**CIS271 - Digital Media**

An introduction to electronic media theory and practice, this course actively engages in the development and application of new media. Students will create electronic media and study the design issues regarding their implementation. Visual literacy and communication will form the basis of the theoretical explorations of this course. This is a Group 1 course for the Professional Writing concentration.

**CIS275 - Web Design and Development**

A project-based course in Web design and development, students will develop Web-based materials and study the design issues surrounding their production and implementation. The study of hypertext environments as well as digital design will form the basis of the theoretical explorations of this course.

**CIS297 - Topics in Computing and Information Studies**

This course is an introductory survey of a selected topic in information technology, varying from year to year. Specific topic and prerequisites will be announced in the preregistration bulletin. This course includes significant writing and presentation requirements for all students. Course can be retaken for credit when topics are different.

**CIS301 - Human-Computer Interaction**
A survey of human-computer interaction research and an introduction to issues in cognitive psychology useful in the design of computing systems for human use. Particular emphasis is placed on developing a knowledge of the basic psychological phenomena of human cognition, memory, problem solving, and language, and on how those processes relate to and condition the interaction between humans and interactive computing systems.

Prerequisites: CIS 102 and PSY 101

CIS310 - Systems Analysis

An overview of the concepts, procedures, and tools necessary for identifying, analyzing, modeling, pricing, and presenting computer-based information systems, the primary objective of this course is to develop skills necessary to conduct the analysis side of the systems development cycle. Students will learn about various methodologies for pursuing systems development. They will gain hands-on experience with techniques for determining user and organizational needs and carry out the steps of a detailed systems analysis based on an interpretation of these needs. Students will also practice their written and oral communication skills in the presentation of a formal systems proposal.

Prerequisite: CIS 102 or 112

CIS330 - Artificial Intelligence

An introduction to artificial intelligence, this course examines the ways in which we can use computation to mimic human intelligence. The problems of knowledge representation and search will be covered, as well as topics in game playing, learning, and natural language processing. Students will implement selected artificial intelligence algorithms to gain hands-on experience with the special problems involved in AI software, particularly issues of training and testing in a statistical setting. Students will also study the philosophical discussion surrounding the pursuit of computation-based intelligent systems.

Prerequisite: CIS 102

CIS335 - Information Security

This course is an in-depth examination of best practices for securing and protecting modern information systems. Students will learn about the vulnerabilities of networked computers and study the tools and techniques used to secure them, from the basics of encryption up to firewalls and hardening tools. Students will also study the principles of information security policy development and the legal, social and privacy issues related to information management.

Prerequisite: CIS 102

CIS349 - Dynamic Web Development

An advanced course designed to provide an understanding of concepts, techniques and software products used in building dynamic software applications for the World Wide Web. The course uses standard methodologies for application design and development and will teach evaluation, implementation and configuration of common operating system, database and scripting components to create powerful web applications. The class will culminate with each student designing, building and deploying a custom web application. Discussion and use of emerging web technologies is also included.

Prerequisites: CIS 112, 275, or permission of the instructor

CIS351 - Advanced Database Concepts

A project-based course on advanced database management system design principles and development techniques. Topics include access methods, query processing and optimization, transaction processing, triggers, stored procedures, distributed databases, object-oriented and object-relational databases, database security and administration, and data warehousing. Students will learn these concepts using an industry standard enterprise-class database management system.

Prerequisites: CIS 112

CIS361 - Digital Imaging

A project-based course focusing upon the production of digital images, this course provides opportunities for the development of expertise in the creation of digital imagery. The activities of this course include collaborative group development projects and
intensive work with computer-based image editing hardware and software. The theoretical explorations of this course will focus on the study of visual culture.

Prerequisite: CIS 271

CIS365 - Digital Film

A project-based course focusing upon the development of digital film, this course provides opportunities for the development of expertise in digital video creation. The activities of this course include collaborative group development projects and intensive work with computer-based video editing hardware and software. Students will also study film and develop a critical eye for digital film enhancements and productions.

Prerequisite: CIS 271

CIS380 - Mobile Application Design and Development

Mobile Application Design and Development provides students with the opportunity to develop applications for mobile devices including cell phones and tablet computers. Specifically, students will study the interface design and programming development of mobile apps. In this course students will learn how to develop applications that will run on any mobile device, regardless of OS platform.

Prerequisites: CIS 271 and 275

CIS397 - Advanced Topics in Computing and Information Studies

An in-depth examination of a selected topic in information technology, varying from year to year. This course is project-based; student learning will be focused on the production of specialized projects, whether individual, class-based, or both. Specific topic and prerequisites will be announced in the preregistration bulletin. Course can be retaken for credit when topics are different.

CIS400 - Service Learning Project Management

A service-learning course in partnership with one or more local nonprofit organizations. Students will be involved in every stage of the process of assisting local nonprofit organizations with information technology needs, including performing a needs assessment, developing a plan for addressing indicated needs (including a schedule of deliverables), and meeting the schedule in a timely manner. Identified needs will likely include such things as demographic analyses of the organization’s client base, assistance with the development of networking systems and infrastructure, Web page development, and computer skills training. The course includes readings in the fields of service and leadership and coursework in the technologies necessary to complete the service compact.

Prerequisites: CIS 100, 102, 112, and 301

CIS425, ART425 - Graphic Design Studio

This course focuses on producing portfolio-quality work based on creative, visual problem solving. Class assignments build upon the theory and technical skills presented in the previous four courses in the graphic design concentration. This course is intended to provide a capstone experience for the concentration in graphic design.

This course does not satisfy requirements for either the art or art education major.

Prerequisites: ART 108, ART 112, CIS 271, and CIS 361

CIS500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the
The Earth and Space Science Program offers elective courses related to the physics of the Earth and the universe.

**ESS201 - Physical Geology**

This course is a study of the composition and structure of the Earth and the geological processes that shape its surface. Major topics include minerals and rocks; igneous, metamorphic, and sedimentary activity; landforms, rivers, glaciers, and oceans; and plate tectonics.

*One all day field trip is required.*

*Three hours lecture, three hours lab*

**ESS202 - Historical Geology**

A study of the evolution of the Earth, major topics of the course include formation of the planet, transformation and development of the crust, and the evolution of life. Techniques of petrology and paleontology are discussed.

*One all-day field trip is required.*

*Three hours lecture, three hours lab*

**ESS209 - Planetary Astronomy**

This course is a study of the planets and their motions; the sun, the moon, the other members of the solar system; and astronomical instruments.

*Three hours lecture, three hours lab*

**ESS210 - Stellar Astronomy**

This course is a study of the sun as a star, the stars, the galaxies, and the universe.

*Three hours lecture, three hours lab*

**ESS232 - Meteorology**

A course dealing with the various aspects of the science of the weather, areas of study will include clouds, weather variables and their measurements, atmospheric motion, wave cyclone formation, precipitation, storm types, and special problems in modern meteorology, such as weather modification, satellite weather forecasting, and water and air pollution.

**East Asian Studies**

**Professor:** Greb (Sociology), Gai (Political Science) (director)

**Associate Professors:** Caffrey (History)

**MINOR REQUIREMENTS:** The East Asian Studies Minor requires seven courses: two to four language courses in Mandarin Chinese or Japanese and three to five non-language courses on East Asia. Students may choose to do 2 language courses + 5
non-language courses, 3 language courses + 4 non-language courses, or 4 language courses + 3 non-language courses. Students may take Mandarin Chinese or Japanese on campus or take them off campus. They may choose to take their language courses all in one language or in both languages. Students are to choose three to five non-language courses from the following list and these courses must be from at least two disciplines, and one of them must be at the 300 level or above:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>HIS 151</td>
<td>Asian Heritage</td>
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<tr>
<td>HIS 250</td>
<td>History of Modern Japan</td>
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<tr>
<td>HIS 251</td>
<td>China through Film*</td>
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<td>HIS 254</td>
<td>Ancient China</td>
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<td>HIS 255</td>
<td>History of Modern China</td>
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<td>Contemporary East Asia</td>
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<td>China through Literature</td>
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<td>HIS 256</td>
<td>Chinese History Tour*</td>
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<td>POL 231</td>
<td>Politics of China</td>
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<td>POL 250</td>
<td>Special Topics China!*</td>
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<td>POL 250</td>
<td>Special Topics Political Economy of East Asia</td>
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<tr>
<td>POL 350</td>
<td>Special Topics East Asia in World Politics</td>
</tr>
<tr>
<td>SOC 251/351</td>
<td>Japan in Japan*</td>
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</tbody>
</table>

*Intersession or Intersession Abroad Course

**NOTE:** Students who are familiar with Mandarin Chinese or Japanese prior to their enrollment at the College may complete the East Asian Studies minor without taking additional language courses; such students would complete the minor with six non-language courses. Students who major in International Studies may not minor in East Asian Studies.

**Economics**

**Professor:** Gregor

**Associate Professors:** Gidas, Gottschall (coordinator), Liberatore, Wang

**Assistant Professors:** L. Dunn, R. Dunn

**Visiting Assistant Professor:** Le

Economics pertains to the interaction amongst individuals as they use scarce means toward the attainment of their goals. The objective of the economics major is to promote in students an understanding of these interactions and thus provide them a foundation for rational and effective participation in society. Specifically, students receive the education necessary to begin careers in business, finance, government, and education or to pursue graduate degrees in such fields as business administration, economics, and law. The major strives to foster intellectual curiosity about social process and eagerness to use analytical techniques in solving social problems.
MAJOR REQUIREMENTS: ECN 101, 102, 201, 202, 440, 498, MTH 131 or 151, and 225. Students should elect three additional courses from the 300-level economics courses and one additional course from the 400-level economics courses.

The Department of Economics requires that the following courses be completed at Washington & Jefferson College by all students majoring in economics: ECN 101, 102, 201, and 202, MTH 131 (or MTH 151), and MTH 225. A student admitted to the College after having completed these courses at another college or university must petition the chair of the department for special consideration in order to waive this requirement and transfer any of the required courses to his or her major at W&J. While not required, the department encourages the students to complete an internship in economics.

MINOR REQUIREMENTS: ECN 101 and 102; 201 or 202; and three additional courses from the 300- or 400-level economics courses.

NOTE: Students majoring in Economics may not double major in Business Administration, Accounting, or Financial Economics.

AP Policy: Students scoring a 5 on ECON-Macroeconomics AP test will receive credit for ECN 102. Students scoring a 4 on ECON-Macroeconomics AP test will receive credit for ECN 102 upon successful completion of ECN-202. The Prerequisite for ECN-202 is waived. Students scoring a 5 on ECON-Microeconomics AP test will receive credit for ECN 101. Students scoring a 4 on ECON-Microeconomics AP test will receive credit for ECN 101 upon successful completion of ECN-201. The Prerequisite for ECN-201 is waived.

EMPHASIS IN FINANCIAL ECONOMICS: The financial economics emphasis is for students who are economics majors and would like to focus their strength on financial economics. Students completing the emphasis will be prepared for both future employment and graduate study in this field. Courses within the emphasis will cover three major areas of financial economics, including financial markets and institutions, investment, and corporate finance. Topics discussed will include the analysis of financial statements, financial structure of a firm, capital budgeting and structure, asset valuation, investment instruments, portfolio management, hedging, insurance, risk management, exchange rates, money supply and demand, monetary policy, interest rates, financial markets and regulation, and the operation of financial institutions. Financial economics, like other economics fields, is a highly quantitative subject that requires skills in calculus, probability and statistics, and spreadsheet packages such as Excel.

EMPHASIS REQUIREMENTS: ACC 211 and ECN 341, and three additional courses from ECN 302, ECN 303, ECN 342, ECN 352, ECN 422, ACC 317.

NOTE: Students considering doing graduate work in economics are strongly encouraged to complete the following courses while at Washington & Jefferson College: MTH 152, 208, 217, 308, 415, and ECN 401.

ECN101 - Principles of Microeconomics

Primary concern is with the study of individual decision units, such as the consumer, households, and firms. Analysis will focus on the way in which the decisions of these units interrelate to determine relative prices of goods and factors of production and quantities that are bought and sold. The ultimate aim is to understand the mechanism by which the total amount of resources is allocated among alternative uses. Economic tools will be used to analyze both economic and political processes.

ECN102 - Principles of Macroeconomics

Primary concern is with the study of relationships between broad economic aggregates, the most important of which are aggregate output and income, aggregate saving and consumers’ expenditure, investment, aggregate employment, the quantity of money, the average price level, and the balance of payments. Models are developed to explain determinants of the magnitudes of these aggregates and of their rates of change through time.

ECN201 - Intermediate Microeconomics

This course is a study of consumer and business behavior with emphasis on corporate pricing and output decisions under varying degrees of competition.

Offered: Spring term only

Prerequisites: ECN 101 and either MTH 131 or 151, all with a grade of C or better

ECN202 - Intermediate Macroeconomics

This course is a study of the measurement, growth, and instability of key economic aggregates, and the extent to which "targets" or "goals" may be attained via monetary and fiscal policy.
Offered: Fall term only
Prerequisites: ECN 102 and either MTH 131 or 151, all with a grade of C or better

ECN301 - Managerial Economics

The course deals with the application of economic principles to the managerial decision-making process. Emphasis is placed on the generation and use of empirical demand and cost relationships with respect to pricing and output decisions under situations of certainty, uncertainty, and risk.

Prerequisites: ECN 101, MTH 225, and either MTH 131 or 151

ECN302 - Corporate Finance

This course examines the operating environment of a corporation and the manner in which boards and management evaluate investment opportunities and arrangements for financing these investments. It provides students with the basic analytical framework that allows them to determine the intrinsic value of a corporation (or any economic institution) and to assess the effectiveness of corporate management in maximizing that value.

Offered: every other fall of even years
Prerequisites: ECN 101 and ACC 211

ECN303 - Money and Banking

This course will cover the following topics: the nature and origins of money; the financial system which consists of the financial industries and the central banking system; the supply of money and its control; money, the macroeconomy, and monetary policy; and international money and finance.

Offered: every other spring of even years
Prerequisites: ECN 101 and 102

ECN305 - International Economics

This course is an introduction to international economics. The first portion of the course will focus on international trade theory. Topics will include comparative advantage, the gains and losses from trade, international factor movements, the connection between trade and economic growth, international trade policy, and regional trade agreements. The second portion of the course will focus on international finance. Topics will include exchange rate determination, balance of payments, fixed exchange rates and foreign exchange rate intervention, the international monetary system, and the Euro. This course will not count towards the Economics major.

Prerequisite: ECN 102

ECN306 - U.S. Economic History

This course is a study of the sources and consequences of economic and social change from colonial to recent times. This course is the same as HIS 210; however, students who enroll for credit in economics shall complete an additional research assignment in economic history.

Prerequisites: ECN 101 and 102

ECN309 - Urban and Regional Economics

This course is an investigation into the economic issues facing metropolitan areas and regions with emphasis on patterns of business and residential location, development, revenue generation, transportation networks, taxation, and pollution.

Prerequisites: ECN 101 and 102
ECN319 - Economic Analysis of Law

This course is an economic analysis of various fields of law, including the primary areas of common law (property law, tort law, contract law, and criminal law). Although the course necessarily will entail a survey of legal principles involved, the emphasis of the course will be on the economic analysis of those principles. Prior knowledge of law will be helpful but not necessary.

Prerequisite: ECN 101

ECN322 - Economics of the Public Sector

This course is a study of public revenues and expenditures at the local, state, and federal levels. Consideration is given to types of taxes, their equity and administration, budgetary control, and the public debt.

Prerequisites: ECN 101 and 102

ECN323 - Labor Economics

This course is a study of the history of the U.S. labor movement, labor legislation, labor market determinations, wage-setting, unemployment, strikes, poverty, current labor problems, and collective bargaining.

Prerequisite: ECN 101

ECN326 - Economics of Poverty and Discrimination

This course examines the issues of poverty and discrimination in the United States. Analysis will focus on defining poverty, how it is measured, and what causes it; identifying who is poor, the policies used to fight poverty, and their effectiveness; and what more needs to be done to combat the problem. Economic theories of discrimination also are also examined from different perspectives with a particular focus on issues of gender and race.

Prerequisite: ECN 101

ECN330 - Industrial Organization and Management

This course is a study of market structure and conduct and performance with emphasis on corporate profitability, growth, pricing, advertising outlay, research and development, scale of operation, and government regulation.

Prerequisite: ECN 101

ECN341 - Financial Economics

This course is designed to introduce basic models and general principles of financial economics, an important subfield of economics, showing students how economics principles are applied in financial markets, asset pricing, and decision making under uncertainty. Students will have some hands-on experiences through tracking real-time financial markets. This course is the same as BUS 341.

Offered: every spring

Prerequisite: ECN 101, ECN 102, ACC 211, and MTH 225

ECN342 - Portfolio Theory

This course studies basic models of portfolio theories. It uses the mean-variance portfolio theory as a basis for diversifying risk and selecting portfolios. It also studies topics including efficient frontier, utility maximization of portfolio selection, and equilibrium models that explain the determination of asset prices such as the capital asset pricing model and the arbitrage pricing model. In addition, it discusses the empirical validity of some of these theoretical models.

Offered: every other spring of odd years

Prerequisites: ECN101, ECN102, either MTH 131 or 151, and 225
ECN352 - Valuation Theory

This course examines the analytical framework for valuation based on analysis of historical performance, including reorganizing a company's financial statements to reflect economic rather than accounting performance. This course will focus on how to link a company's valuation multipliers to the core drivers of its performance. The forecasting of future performance will emphasize not just the mechanics of forecasting but also how the economic environment influences these forecasts. Additionally, students will learn how to estimate the cost of capital and to interpret the results of corporate valuations in light of a company's competitive situation.

Prerequisites: ECN 202 and ECN 341

ECN391 - Environmental and Natural Resource Economics

This course will examine both natural resource and environmental issues from the uniquely economic perspective. Students will become familiar with how economic tools and concepts such as property rights, externalities, market failure, cost-benefit analysis, discounting, optimality, and sustainability can be used to analyze issues surrounding depletable and renewable resources. The economic perspective on environmental pollution and pollution control also will be analyzed using these tools and concepts.

Prerequisite: ECN 101

ECN397 - Topics in Economics

The class schedules and students' transcripts will indicate specific course offerings and completions.

Prerequisite: Permission of the instructor

ECN398 - The Economics of Gender

In the United States and the rest of the world, one can observe different economic outcomes for men and women that are both significant and persistent. This course uses economic theory and analysis in an attempt to explain why gender differences lead to different outcomes in education, career choices, family roles, and earnings. To analyze these differences, this course looks at economic models that explicitly include men and women, at statistics measuring the differences between men and women, and at government and corporate policies that affect men and women differently. This course also includes comparisons of gender-related outcomes across countries, over time in the United States, and across ethnic groups.

Prerequisites: ECN 101

ECN401 - Mathematical Economics

The purpose of this course is the study of mathematical techniques used in economic analysis. The primary emphasis will be on the use of calculus as a tool of economic analysis. Single-independent-variable calculus will be reviewed and utilized in economic analysis. Then multivariate calculus will be covered and applied in the realm of optimization as well as comparative statistics. Matrix algebra will also be covered and used as an important helper in many of the frameworks utilized in the course.

Prerequisites: ECN 201, 202, and MTH 131 or 151

ECN405 - Economic Development

This course is a study of the economic growth problems of the third world. A major part of the course will be an analysis of various development strategies and how they affect population growth, resource allocation, external dependence, employment, and social relations.

Prerequisites: ECN 201 and 202

ECN420 - History of Economic Thought

This course is a survey of the principal writers in economics and the development of their thought from the introduction of political economy to the present time.

Prerequisites: ECN 201 and 202
ECN421 - International Trade Theory

A study of classical and modern theories of international trade with emphasis on the theory of tariffs, quotas, and customs unions; monopoly and international trade; arguments for free trade and protection; commercial policy of the U.S.; and promotion of trade and growth.

Prerequisite: ECN 201

ECN422 - International Finance and Macroeconomics

This course provides an in-depth analysis of the international financial system, international monetary economics, open economy macroeconomics, and related topics. The topics to be covered include exchange rate determination and the foreign exchange market, balance of payments analysis, policy making in the open economy, and the international monetary system.

Offered: every other fall of odd years

Prerequisite: ECN 101, 102, and 202

ECN425 - Mergers and Acquisitions

This course covers the theory and practice of mergers and acquisitions for companies including takeovers and takeover defenses, private financing, asset restructuring, capital restructuring, leveraged buyouts, management buyouts, and leveraged recapitalizations. This course will familiarize students with institutional details and present a variety of case situations in which corporate valuation, industry and financial analysis, strategic decision making, and financial contracting and design are studied. Casework represents an integral part of this course.

Prerequisites: ECN 352, or permission of instructor

ECN440 - Econometrics

An investigation of the application of econometric techniques to the study of economic decisions, this course emphasizes business and economic problems. Topics include least squares, simple regression, multiple regression, identification, modeling, and computer applications.

Prerequisites: ECN 101 and 102, either ECN 201 or 202, and either MTH 225 (with a grade of C or better) or MTH 305

ECN441 - Econometrics II

This course is designed to study advanced topics in econometrics beyond the introductory level. Those topics are related to the cross sectional data model, the panel data model, and especially the time series model. Students will also have hands-on experiences through investigating real world data samples using these models.

Prerequisites: ECN201, 202, and 440

ECN497 - Advanced Topics in Economics or Current Problems in Economics

The class schedules and students' transcripts will indicate specific course offerings and completions.

Prerequisite: Permission of the Instructor

ECN498 - Senior Thesis

Students are expected to develop an acceptable topic, conduct a thorough literature search, and conduct necessary data gathering, where appropriate. Finally, students will prepare and defend a written report.

Prerequisites: ECN 201, 202, 440, and senior status
ECN500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Education (Teacher Certification)

Professors: Carpenter, Longo (chair)
Instructors: Bunting, Day, P. Easton, Podgurski, Wagner

The preparation of teachers has been a proud and historic part of the heritage of Washington & Jefferson College since its founding in 1781. The education department’s mission is to attract to the teaching profession intelligent caring men and women of competence, maturity, and creativity who are effective lifelong learners, responsible citizens, and personal and professional role models prepared to contribute positively to the world in which they live. To fulfill its educational mission, the education department offers a broad curriculum that actively involves students in student taught demonstration lessons and diverse field experiences connecting educational theory with best practice. Active learning and complete cognitive and social participation are required of all participants. The philosophy of the program is that the way to learn to teach is to teach incorporated in the motto “Docendo Discimus” -- “We learn by teaching.”

The W&J Education Department offers four options for students seeking teacher certification in the state of Pennsylvania:

- Early Childhood (Pre K-4) Certification
- Upper Elementary Education (grades 4-8) Certification (available in: Language Arts, Mathematics, Science, or Social Studies)
- Secondary Education (7-12) Certification (available in: Biology, Chemistry, Social Studies, English, Mathematics, or Physics)
- Specialty Area Certification (grades K-12) (available in: Art, Environmental Education, French, German or Spanish)

In addition, students can add special education PreK-8 or 7-12 to their primary certification area, this is called “dual certification.”

It is important for students to check with the Education Department as soon as possible (ideally during the freshman year) in order to follow the required procedures for successful completion of the certification process and to subsequently maintain regular contact with the Education Department.

CERTIFICATION REQUIREMENTS

The Committee on the Teaching Profession oversees the College’s Teacher Certification Program. All students interested in being admitted to this program must apply to the Committee and be accepted. Students apply for admission in the spring of their sophomore year after having completed 48 regular semester credits of coursework. In order to be eligible for admission, students must meet the following General Requirements:

- A minimum cumulative G.P.A. of 3.0 overall is required of all students seeking certification.
- Students seeking certification must take 2 terms of College Level Math and 2 terms of College Level English (one composition and one literature).
- Students must maintain current clearances (Act 34, 151, FBI and TB)
- Students must pass all required state mandated tests prior to Admission to the program

Admitted students must apply to the committee again for permission to Student Teach, typically in the spring of their junior year. In order to be eligible for student teaching, students must meet the following General Requirements:

- Continue to maintain a minimum cumulative G.P.A. of 3.0 overall and current clearances (Act 34, 151, FBI and TB)
- Must complete an application and provide three letters of reference
- Students must pass the appropriate state mandated required tests prior to student teaching

Once students seeking certification complete EDU 406 and 407, they are reviewed by the Committee on the Teaching Profession. The committee considers the student’s academic record and the evaluation of his or her student teaching by
cooperating teachers, the education department, and the departmental representative from the committee. A student’s maturity, professional conduct, and commitment to teaching is also evaluated during this review. The State mandates that “The candidate is known and regarded by the preparing institution as a person of good moral character and possesses those personal qualities and professional knowledge and skill which warrant issuance of the requested certificate.” Source: Teacher Information Management System (TIMS). In order to be reviewed by the committee for certification the student must meet the following requirements:

- Submitted and presented a professional portfolio graded as satisfactory or above
- Have successfully completed all of the program requirements for their certification area
- Have completed all of the requirements for a bachelor’s degree with a minimum cumulative G.P.A. of 3.0 overall
- Have earned a satisfactory or above rating on the Pennsylvania Statewide Evaluation for Student Professional Knowledge and Practice (PDE 430 form).

Early Childhood (Pre K-4) Certification

Students seeking certification to teach at the early childhood level (PreK-4) must major in Child Development and Education. See the Child Development and Education section of the catalog.

Upper Elementary Education (grades 4-8) Certification

Students can be certified in Upper Elementary Education (4-8) in one of 4 specific specialized content areas:

- Language Arts (English) or
- Mathematics or
- Science (Biology or Environmental Studies) or
- Social Studies (History)

Students seeking certification to teach at the upper elementary level (grades 4-8) may achieve certification in one of two ways:

* Students can major in Child Development and Education and complete a minor in one of the five academic content areas. See the sections of the catalog for Child Development and Education and the appropriate discipline for more information about this option.

* Students can major in one of the five content areas (Biology, Environmental Studies, English, History, Mathematics) with additional specific academic content courses related to grades 4-8, and complete the following additional courses in Psychology and Education: PSY 101, PSY 102, PSY 265, PSY 275; EDU 201, EDU 207, EDU 301, EDU 302 (all areas except language arts), 303 (language arts only), EDU 350 & EDU 403, and EDU 406 & 407 (Student Teaching, with permission of the Committee on the Teaching Profession, credited as 3 courses). Completion of these education and psychology courses constitutes an education minor. See the appropriate departmental section of the catalog for major department requirements for certification. Students who do not complete the certification program, may minor in Education by completing the following courses: EDU 201, EDU 207, EDU 301, EDU 403, EDU 408, and EDU 409. Note: Psychology 101 is a prerequisite for all education and psychology courses.

Students who would like to add Special Education PreK-8 to their Upper Elementary (4-8) Certification need to complete additional designated coursework in special education to qualify for “dual certification in special education PreK-8.”

Secondary Education (grades 7-12) Certification

Students seeking certification in secondary education (7-12) must complete an academic major in the area they plan to teach with a minor in education. Secondary education is offered in the following areas: Biology, Chemistry, Social Studies (major in History), English, Mathematics, or Physics. See the appropriate departmental section of the catalog for major department requirements for certification. In addition to the requirements of the major department, students seeking secondary or specialty area certification must complete EDU 201, 207, 301, 350, 403, 406, and 407 (Student Teaching, with permission of the Committee on the Teaching Profession, credited as 3 courses). Completion of these education courses constitutes an education minor. Students who do not complete the certification program, may minor in Education by completing the following courses: EDU 201, EDU 207, EDU 301, EDU 403, EDU 408, and EDU 409. Note: Psychology 101 is a prerequisite for all education courses.

Students who would like to add Special Education 7-12 to their Secondary Education (7-12) Certification need to complete additional designated coursework in special education to qualify for “dual certification in special education 7-12.”

Specialty Education (grades K-12) Certification

Students seeking certification in a K-12 specialty content area: art education, environmental education, or modern languages (French, German, or Spanish) must major in that academic area and minor in education. See the appropriate departmental section of the catalog for the major department requirements for certification. In addition to the requirements of the major department, students seeking secondary or specialty area certification must complete EDU 201, 207, 301, 350, 403, 406, and
407 (Student Teaching, with permission of the Committee on the Teaching Profession, credited as 3 courses). Completion of these education courses constitutes an education minor. Students who do not complete the certification program, may minor in Education by completing the following courses: EDU 201, EDU 207, EDU 301, EDU 403, EDU 408, and EDU 409.

Students who would like to add Special Education to their Specialty Education (K-12) Certification need to complete additional designated coursework in special education to qualify for either “dual certification in special education PreK-8” or “dual certification in special education 7-12.”

**Dual Certification: Special Education**

Dual certification in special education is available in either PreK-8 or 7-12. **This is not a stand-alone certification.** It must be paired with an appropriate area of certification. Courses required for dual certification are EDU 221, 301, 303, 309, 321, 350, 403, and 250 and will be tailored to the appropriate age/grade level.

Any of these programs may lead to teacher certification if steps mandated by the College, the W&J Education Department, and the Pennsylvania Department of Education (PDE) are correctly followed. Specific details of each of these programs can be found in the W&J Education Department’s Handbook for Students Seeking Certification to Teach. This handbook must be picked up in the office of the W&J Education Department.

**EDU201 - Foundations of American Education**

This course focuses on the historic, philosophical, sociological, and economic roots of American education. Connections are made between past and current events as they impact today’s students and schools. This course is recommended as the initial course for those considering teacher certification.

A weekly internship at a local school is required.

Prerequisites: Praxis I and clearances (FBI, Criminal Record, Child Abuse, and TB), or clearances and permission of the education department chair. Praxis I recommended.

**EDU205 - Geography for Teachers**

This four-credit course is designed for future classroom teachers who will be teaching a course in geography or integrating geography throughout their curriculum. Students will research and study the cultural, environmental, ecological, physical, and political features of various geographical regions and determine the direct and indirect impact on diverse societies and education.

A weekly internship at a local school is required.

Prerequisites: EDU 201 and Praxis I and clearances (FBI, Criminal Record, Child Abuse, and TB) or clearances and permission of the education department chair

**EDU207 - Educational Psychology**

This four-credit course focuses on theorists, theories, and practices of psychology within an educational context. Motivation and learning, growth and development, and gender equity in the classroom will receive primary consideration.

A weekly internship at a local school is required.

Prerequisites: PSY 101, EDU 201, and Praxis I (passed) and clearances (FBI, Criminal Record, Child Abuse, and TB) or clearances and permission of the education department chair

**EDU221 - School Law**

This four-credit course will investigate and explore the legal framework and foundations of the American School system and their impact on schools, students, teachers, and parents in the twenty-first century. Topics of study may include the role of religion in public education, due process, the legal mandates of students with special needs, No Child Left Behind, etc. Students will explore and evaluate actual school law situations through case studies and other research.

**EDU250 - Teaching Internship**

This four-credit course focuses on in-service participation as a full-time teacher’s aide in a pre-school, elementary, junior, middle, high school, or special education classroom during the January Intersession. A seminar component focuses on successfully
understanding and navigating the school culture and researching and analyzing the dynamics of successful school reform especially as it relates to inclusion and students with special needs.

A three-week full-time internship at a school is required.

Prerequisites: EDU 201, 207, and Praxis I (passed) and clearances (FBI, Criminal Record, Child Abuse, and TB) or clearances and permission of the education department chair

EDU301 - The Exceptional Learner

This four-credit course focuses on the theory and practice in the effective instruction and assessment of the exceptional learner. Social and cognitive development and school and classroom accommodations for both students who are gifted and students who have special needs will be researched and examined in classroom and school settings. National and state laws and school district guidelines pertaining to the treatment and teaching of the nontraditional learner and students with special needs in inclusive classrooms will be examined.

A weekly school internship is required.

Prerequisites: EDU 201, 207, and Praxis I (passed) and clearances (FBI, Criminal Record, Child Abuse, and TB) or clearances and permission of the education department chair

EDU302 - Curriculum

This four-credit course provides an overview of the development of problem solving and scientific reasoning skills in early childhood and elementary students. It connects theory and practice of effective instruction and assessment strategies in teaching modules emphasizing mathematics, science, social studies, and the humanities. Emphasis will be placed on concrete manipulatives, integration of science and mathematics with other subjects, reading and writing across the curriculum, inclusion, and classroom management. Throughout this course students integrate the Pennsylvania Department of Education Standards Aligned System (PA-SAS), the PDE Chapter 354.33 Professional Instructional Standards, and the PDE 430 Professional Knowledge and Practice Standards into course activities and assignments. This course is recommended for seniors to take concurrently with EDU 303 to prepare them for student teaching.

A weekly school internship is required.

Prerequisites: EDU 201, 207, 301, and Praxis I and clearances (FBI, Criminal Record, Child Abuse, and TB) or clearances and permission of the education department chair.

EDU303 - Literacy, Reading and Writing

This four-credit course introduces theory, principles, and practices of teaching reading and writing, the developmental nature of language and reading ability, and effective classroom strategies for inclusionary practices and writing across the curriculum for all students. Throughout this course students integrate the Pennsylvania Department of Education Standards Aligned System (PA-SAS), the PDE Chapter 354.33 Professional Instructional Standards, and the PDE 430 Professional Knowledge and Practice Standards into course activities and assignments. This course is recommended for seniors to take concurrently with EDU 302 to prepare them for student teaching.

A weekly school internship is required.

Prerequisites: EDU 201, 207, 301, and Praxis I and II and clearances (FBI, Criminal Record, Child Abuse, and TB) or clearances and permission of the education department chair.

EDU304 - Children's Literature

This four-credit survey course introduces students to several genres of literature for children, including fiction, biography, fantasy, folk tales, poetry, informational, and picture books. Emphasis will be given to the value of both Western and non-Western literature, gender fairness, and inclusive multicultural perspectives in the selection and teaching of classroom literature. Students will read and critique selections from each of the above categories focusing on content, literary analysis, inclusivity, and the instructional skills necessary to teach reading and writing through the use of children's literature.

A weekly school internship is required.

Prerequisites: EDU 201, 207, 301, and Praxis I and clearances (FBI, Criminal Record, Child Abuse, and TB) or clearances and permission of the education department chair.
EDU309 - Individualized Instruction

This four-credit course focuses on the study of the diverse social, cultural, and academic backgrounds and special needs of all students represented in classrooms. Students will review and present research related to the issue of preparing teaching methods and materials for individualizing instruction to meet diverse needs. Class readings and discussions will focus on theories of individualizing instruction and the problems of applying individualized instruction in particular school settings. An internship at a local school is required working with students who may be severely and profoundly handicapped and/or have low incidence disabilities.

Prerequisites: EDU 201, 207, 301, and Praxis I and clearances (FBI, Criminal Record, Child Abuse, and TB) or clearances and permission of the education department chair.

EDU321 - Diagnostic Teaching

This four-credit course focuses on preparing teachers to develop diagnostically inclusive teaching skills through the use of educational technology and other methodologies to expand the curriculum to better meet the learner’s competencies, needs, interests, and abilities. Emphasis is on researching, recognizing, and effectively responding to student's strengths and weaknesses through the use of research and educational technology. An internship at a local school is required working with students who may be mildly or moderately handicapped and/or have moderate or high incidence disabilities.

Prerequisites: EDU 201, 207, 301, and Praxis I and clearances (FBI, Criminal Record, Child Abuse, and TB) or clearances and permission of the education department chair.

EDU350 - Teaching the Diverse Learner

This four-credit course focuses on in-service participation as a full-time teacher’s aide in an early childhood, elementary, secondary ESL (English as a Second Language / ELL English Language Learner) and/or special education classroom setting during the January Intersession. A seminar / research component focuses on successfully understanding, analyzing, evaluating, and teaching the ESL / ELL learner.

A three-week full-time internship at a school is required.

Prerequisites: EDU 201, 207, 301 or permission of the instructor & Clearances: FBI, Act 34, Childcare, and a negative TB reading.

EDU403 - Differentiated Instruction and Assessment

This four-credit course focuses on preparing students planning to student teach during the spring term of the senior year in the theories and practice of effective differentiated instruction and equitable assessment. Education seniors are required to take this course during the fall term of the senior year. This course involves intensive planning and teaching of demonstration master lessons incorporating a variety of assessments, readings, and research in academic content areas. Construction of various lessons, test forms, and basic quantitative concepts are included.

An extensive internship at a local school is required.

Prerequisites: Praxis II, EDU 201, 207, 301, clearances (FBI, Act 34, Childcare, & TB) or permission of the education department chair with clearances.

EDU406 - Principles of Curriculum Design (Certification Track)

This four-credit course allows students to analyze, synthesize, and evaluate information learned during their certification program course work, internships, and student teaching. Students will design inclusive curricular materials related to a particular subject area or age group. Topics include curricular research, instructional activities, and methodologies to evaluate all aspects of the classroom experience integrating the Pennsylvania Department of Education Standards Aligned System (PA-SAS), PDE Chapter 354.33 Professional Instructional Standards, and PDE 430 Professional Knowledge and Practice Standards.

Prerequisites: EDU 201, 207, 301, 403, and Praxis I and II and clearances (FBI, Criminal Record, Child Abuse, and TB) or clearances and permission of the education department chair.

EDU407 - Student Teaching (Certification Track)
This 12-week twelve-credit course is the capstone experience for students seeking certification to teach. Students are assigned to a school to connect theory, professional knowledge, and best inclusionary practices under the guidance and supervision of the education department faculty, school personnel, and members of the COTP.

This course is taken concurrently with EDU 406.

Prerequisites: EDU 201, 207, 301, 403, and Praxis I and II (passed) and clearances (FBI, Criminal Record, Child Abuse, and TB).

EDU408 - Capstone Seminar (for majors not seeking certification)

The focus of this four-credit course is to actively investigate personal and academic strengths and competencies, seek alternative educational experiences, and explore personal goals and professional options. Students will explore their own set of vocational strengths, as well as careers including but not limited to graduate school programs, teaching without certification, alternative certification programs, teaching in other states, and employment in other educational fields. This seminar allows students to analyze, synthesize, and evaluate content learned during their college career.

This is part of the Child Development and Education Capstone Seminar experience and is taken simultaneously with EDU 409.

EDU409 - Capstone Internship (for majors not seeking certification)

Students taking this four-credit course will explore and research alternatives to teacher certification in a field-based educational or nonprofit capstone experience. They will design an empirical study or create an educational model that applies the psychological and educational principles studied in education classes and internships to create an alternative career path outside of traditional teacher certification. Professional internships are required.

This course is part of the capstone experience for the child development and education major and is taken simultaneously with EDU 408.

EDU500 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Engineering

Professor: Cannon (engineering liaison)

The dual-degree engineering program combines the strengths of a liberal arts education and specialization in a field of engineering. Students receive a broad education that includes stronger training in the basic sciences and communication skills in addition to specialized training in a particular field of engineering.

Students spend three years at W&J and two years at an engineering school. Upon successful completion of the program, the student receives a bachelor of arts degree from W&J and a bachelor of science degree in an engineering field from the partner school. Cooperative programs in engineering have been established with Columbia University in New York City, Case Western Reserve University in Cleveland, Ohio, and Washington University in St. Louis, Missouri. However, students may choose to complete their engineering studies at other schools with engineering programs.

Students must complete W&J's degree requirements. Normally, some of the requirements are fulfilled by transferring courses back from the engineering school. However, consistent with W&J's degree requirements, no more than three courses may be earned off campus in the major.

To be guaranteed acceptance at affiliated schools, students must
• Have a cumulative grade point average of 3.00 or better (3.25 for Washington University);
• Have a grade point average of 3.00 (3.25 for Washington University) or better in approved courses in chemistry, mathematics, physics, and computer programming; and
• Complete any courses required by the individual schools.
• There are slight variations in requirements between schools and between different fields in engineering. Courses required for all engineering fields are CHM 160, 170, CIS 102, MTH 151, 152, 208, 308, and PHY 107, 108, and 209. PHY 234 may be substituted for MTH 308.

Students should work closely with the engineering liaison in order to ensure a smooth transition to the affiliated schools and to assure completion of W&J graduation requirements.

English

Professors: Drew-Bear, Easton, Kyler, Troost (chair)

Associate Professors: T. Fee, Harding, Mayer, McEvoy, Mulvania, Shiller, Verdun

Visiting Assistant Professor: Lewis

Lecturer: Hess

The English program aims to develop students who read with comprehension, insight, and appreciation; write with competence, grace, and authority; speak with clarity and confidence; and know about literature and literary history. It prepares them for careers that require cultural breadth, strong writing and research skills, and an ability to read, synthesize, and analyze written material.

MAJOR REQUIREMENTS: Ten courses, including ENG 263, 290, and 400; a survey course chosen from ENG 264, 265, or 266; four English courses at the 300-level; and two English courses, one of which must be numbered 200 or higher. No more than two Intersession courses may count for the major. The intensive freshman writing courses (currently ENG 111, ENG 112) required of all students do not count toward the major.

MINOR REQUIREMENTS: Six courses, including a survey course chosen from ENG 263, 264, 265, or 266; two other English courses at the 200-level; two English courses at the 300-level; one additional English course. No more than one Intersession course may count for the minor. Professional writing courses (ENG 200, 201, 202, 203, 301, and others as designated) do not count for the minor. The intensive freshman writing courses (currently ENG 111, ENG 112) do not count toward the minor.

Prerequisites for all courses may be waived with the written permission of the instructor.

In general, 100- and 200-level literature courses focus on developing skills in close reading and analytic writing while 300- and 400-level courses build on this foundation by asking students to engage responsibly with secondary sources or to employ sophisticated theoretical approaches. Professional and creative writing courses at the 200-level teach the fundamentals of writing in several genres while 300-level courses focus on developing a student's writing within a specific genre.

English majors contemplating graduate study in literature or writing should make their intentions known to their advisors, ideally in the sophomore or junior year. It would be wise to study one or two foreign languages through at least the second year and give thought to undertaking an independent study project or pursuing honors.

AP POLICY: Students who earn a score of 4 or 5 on the College Board's test in English language and composition receive credit for ENG 111; students who earn a score of 4 or 5 on the test in English literature receive credit for ENG 190 (but not HUM designation).

TEACHER CERTIFICATION: Students may seek Secondary Education (grades 7-12) Certification in English by completing the English major, the required English content area courses (ENG 200, ENG 302, COM 220, THR 152), and the Education minor consisting of those courses required for Secondary Education (grades 7-12) Certification.

Students may seek Upper Elementary Education Certification (4-8) in Language Arts in one of two ways: Option 1: Complete the Child Development and Education major and the English minor (or major); Option 2: Complete the English major, the required English content area courses (ENG 200, ENG 302, COM 220, THR 152), and the Education minor consisting of those courses required for Upper Elementary Education (grades 4-8) Certification in Language Arts.

Before being formally admitted to either program, students must satisfy -- by the end of the sophomore year -- the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

ENG111 - Composition

An intensive writing course that develops skills in critical thinking, academic writing, analytic reading of both literary and
non-literary texts, methods of research, and the proper acknowledgement and documentation of secondary sources. Students learn to shape workable topics, revise in response to comments, and produce thesis-driven essays that are organized, coherent, and grammatical and that support points with examples. A passing grade satisfies the all-college skills requirement for a first-year intensive writing course; students who fail the course must repeat it. This course does not toward the English major or minor.

**ENG112 - Honors Composition**

An intensive writing course that develops skills in critical thinking, academic writing, analytic reading of both literary and non-literary texts, methods of research, and the proper acknowledgement and documentation of secondary sources. Students learn to shape workable topics, revise in response to comments, and produce thesis-driven essays that are organized, coherent, and grammatical and that support points with examples. A passing grade satisfies the all-college skills requirement for a first-year intensive writing course; students who fail the course must repeat it. This course does not toward the English major or minor.

**ENG190 - Introduction to Literature**

A discussion course that introduces students to the practices of reading, discussing, and writing about literary works with emphasis on reading actively and acquiring the vocabulary and skills needed to interpret literature. The texts in each section of the course vary but represent several genres, including poetry, fiction, and drama.

*Not open to seniors*

**ENG200 - Advanced Composition**

Theoretical and practical aspects of academic writing, emphasizing both personal expressiveness and analytic skills. Students write in a variety of genres to gain experience in hypothesis development, critical thinking, research, and documentation. Readings focus on current and classical theories of idea generation, audience analysis, persuasive method, and revision strategy. This course is required for Secondary Education (grades 7-12) Certification in English and for Upper Elementary Education Certification (4-8) in Language Arts-Option 2. It is a Group 2 course for the Professional Writing concentration; it does not count toward the English minor.

*Prerequisite: ENG 111 or 112*

**ENG201 - Professional Writing**

Theoretical and practical aspects of writing for the workplace, emphasizing invention, problem-solving, audience adaptation, revision, document design, usability, and ethics. Students create documents such as procedure manuals, brochures, proposals, and magazine articles, and they conduct research using print and electronic sources. This is a required course for the Professional Writing concentration; it does not count toward the English minor.

*Prerequisite: ENG 111 or 112*

**ENG202 - Topics in Professional Writing**

A focused study of one genre within professional writing, such as science writing or mass media writing, paying particular attention to issues unique to the genre as well as issues of invention, audience, ethics, and aesthetics. In addition to analyzing published examples, students compose and revise several works in the genre. This is a Group 1 course for the Professional Writing concentration; it does not count toward the English minor.

*Prerequisite: ENG 111 or ENG 112*

**ENG203 - Editing and Print Design**

Theoretical and practical aspects of preparing documents for publication. Students study strategies for developmental editing, the principles of good prose and page design, and the history of book production. They learn to copyedit a text using standard proofreading marks, apply style sheets and templates, and use page-layout software (Adobe InDesign). This is a Group 1 course for the Professional Writing concentration; it does not count toward the English minor.

*Prerequisite: ENG 111 or 112*

**ENG205 - Creative Writing**

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An intensive introductory course focusing on the craft of writing both poetry and fiction. Student writing in a variety of forms will be submitted for criticism alongside works by established writers with the overall goal of achieving a better understanding of the fundamentals of producing polished poems and short stories.

Prerequisite: ENG 190, 263, 264, 265, or 266

**ENG215 - Shakespeare for Everyone**

An introduction to reading, understanding, and enjoying selected plays by William Shakespeare within the context of stage, film, and classroom performance. In addition, it teaches the art of close reading and analytical writing.

**ENG222 - Topics in Literature and the Environment**

An introductory topics course on literature and the environment. Students might expect to be introduced to environmental writing from its inception to the present, in texts and genres as diverse as the Bible, Romantic poetry and contemporary adventure writing. Themes and subtopics might include the idea of wilderness, the literature of place, or travel writing. Topics are announced each term. This course serves as an elective for the EVS Program.

**ENG224 - Gender and Sexuality in Literature**

A study of a selected topic in literature related to gender or sexuality. Specific courses may examine the effect of gender on authors’ lives and work; the depiction of gender or sexuality in literature; the effect of gender in different literary periods; images of women; masculinity; gay and lesbian literature; or feminist approaches to literature. Topics are announced each term. This course serves as an elective for the GWS Program.

**ENG250 - Introduction to Genres**

A discussion course that explores works in a single literary genre -- such as comedy, satire, or fiction -- emphasizing both formal and historical issues. In addition, it teaches the art of close reading and analytical writing. Genres are announced each term.

**ENG255 - Special Topics in Literature**

A discussion course that explores texts arranged by theme, drawn from several countries, or presented in translation. In addition, it teaches the art of close reading and analytical writing. Recently this course has explored Asian-American literature, the poetry of faith, the gothic, and the literature of Ireland. Topics are announced each term.

**ENG260 - World Literature**

A lecture-discussion course that explores literature produced largely by authors writing outside the Western literary tradition. Texts represent a variety of genres and historical periods and often emphasize themes of colonialism, revolution, and national identity.

**ENG261 - Children's Literature**

A discussion course that provides historical context and introduces several genres of literature for young people, including fiction, biography, fantasy, poetry, picture books, and informational texts. This course is not open to students majoring in Child Development and Education since it is cross-listed with EDU 304. In addition, it teaches the art of close reading and analytical writing.

**ENG263 - British Literature 1**

A lecture-discussion course that surveys texts from the Old English, Middle English, and Early Modern periods in the context of literary and cultural traditions and that provides students with a foundational knowledge of British literary history before 1670. Readings include *Beowulf* and *Sir Gawain and the Green Knight* (in translation), selections from Chaucer’s *Canterbury Tales* (in Middle English), a book of Spenser’s *Faerie Queene*, a play by Shakespeare, and Milton’s *Paradise Lost*. In addition, it teaches the art of close reading and analytical writing. This course is required for English majors.

**ENG264 - British Literature 2**
A lecture-discussion course that surveys major literary works and writers from the Restoration, eighteenth century, and nineteenth century in relation to their cultural development and historical backgrounds. Readings include works by Dryden, Swift, Wordsworth, Austen, Dickens, Browning, and Wilde and include poems, plays, novels, essays, and letters. In addition, it teaches the art of close reading and analytical writing.

**ENG265 - American Literature 1**

A lecture-discussion course that surveys significant texts and influential ideas of American literature from its beginnings through the mid-nineteenth century with emphasis on intellectual, cultural, and historical contexts, including the formation of American identity and the emergence of the literary canon. In addition, it teaches the art of close reading and analytical writing.

**ENG266 - American Literature 2**

A discussion-lecture course that surveys the significant texts and influential ideas of American literature from the mid-nineteenth century through the present with emphasis on intellectual, cultural, and historical contexts, including issues of class, ethnicity, and gender. In addition, it teaches the art of close reading and analytical writing.

**ENG270 - African-American Literature**

A study of selected works by African Americans, with attention to issues of identity, race, history, survival, and the relationship of literature to the other arts. Topics vary; specific courses might be organized by genre, author, theme, or other emphasis. Recent topics have included poetry, autobiography, and fiction. Topics are announced each term.

**ENG290 - Literary Investigations**

An introduction to the tools of literary criticism. By studying a small number of substantial literary texts, each possessing a significant history of scholarly commentary, students learn how to use a variety of contemporary interpretive strategies to open up a text. In addition, students learn how to read criticism and perform discipline-specific research, thereby equipping themselves for study at the 300-level. This course is required for English majors.

*Prerequisite: one 200-level fall- or spring-term literature course (two strongly recommended).*

*Not open to freshmen or seniors.*

**ENG301 - Advanced Professional Writing**

A study of advanced topics and techniques in professional writing, with a strong emphasis on the role of technology in writing, collaborating, and reaching audiences. In addition to analyzing published examples, students compose and revise several works. This is a Group 1 course for the Professional Writing concentration; it does not count toward the English minor.

*Prerequisite: ENG 200, 201, or 203*

**ENG302 - History of the English Language**

A lecture-discussion course tracing the English language’s development from its Germanic roots to its contemporary status as a world language, exploring the historical and cultural influences that shaped each stage of the language’s development. In the process, students analyze the chronological changes in grammar and syntax from Anglo-Saxon to current varieties of English, study their lexicons, and perform detailed work in etymology. This course is required for Secondary Education (grades 7-12) Certification in English and for Upper Elementary Education Certification (4-8) in Language Arts-Option 2.

*Offered only in alternate years (fall 2012 and fall 2014)*

*Prerequisite: ENG 263*

**ENG305 - Studies in Early English Literature**

Old and Middle English works studied within their cultural and critical contexts and read, when possible, in the original. The emphasis in a given semester might be chronological, generic, or thematic. Recent topics have included dream visions, Arthurian literature, and the works of Chaucer. The topic will be announced each term.
Prerequisites: Two 200-level literature courses

ENG310 - Studies in Renaissance Literature

Authors and texts from Skelton to Milton studied within their cultural and critical contexts. The emphasis in a given semester might be chronological, generic, or thematic. Recent topics have included the poetry of Milton, early modern drama, and sixteenth-century poetry. The topic will be announced each term.

Prerequisites: Two 200-level literature courses

ENG315 - Studies in Shakespeare

Selected works of William Shakespeare studied within their historical and critical contexts. The emphasis in a given semester might be chronological, generic, or thematic. This course is also designed to strengthen students’ understanding of Shakespeare’s language and his dramatic art, partly by considering his plays as scripts for performance.

Prerequisites: Two 200-level literature courses

ENG320 - Studies in Restoration and Eighteenth-Century Literature

Authors and texts from Dryden to Wollstonecraft studied within their cultural and critical contexts. The emphasis in a given semester might be chronological, generic, or thematic. Recent topics have included the literature of sense and sensibility, neoclassical drama, and rise of the novel. The topic will be announced each term.

Prerequisites: Two 200-level literature courses

ENG325 - Studies in Early American Literature

Literature of the colonial and early national periods studied within its cultural and critical contexts. The emphasis in a given semester might be chronological, generic, or thematic. Recent topics have included captivity narratives, the early novel, and literature of national crisis. The topic will be announced each term.

Prerequisites: Two 200-level literature courses

ENG330 - Studies in Nineteenth-Century British Literature

Authors and texts from Blake to Hardy studied within their cultural and critical contexts. Specific courses might be defined by author, period, movement, genre, or theme. Recent topics have included poetry of the Romantics and the Victorian novel. The topic will be announced each term.

Prerequisites: Two 200-level literature courses

ENG335 - Studies in Nineteenth-Century American Literature

Literature of the nineteenth century studied within its cultural and critical contexts. Specific courses might be defined by author, period, movement, genre, or theme. Recent courses have included the novels of Hawthorne and Melville, women writers, and the American Renaissance. The topic will be announced each term.

Prerequisites: Two 200-level literature courses

ENG340 - Studies in Twentieth-Century British Literature

Authors and texts from Yeats to Pinter studied within their cultural and critical contexts. Specific courses might be defined by author, period, movement, genre, or theme. Recent topics have included modern drama, poetry and the past, and modernism. The topic will be announced each term.

Prerequisites: Two 200-level literature courses

ENG341 - Studies in Twentieth-Century American Literature
Literature of the twentieth century studied within its cultural and critical contexts. Specific courses might be defined by author, period, movement, genre, or theme. Recent topics have included Hemingway and Fitzgerald, Southern women writers, and the literature of war. The topic will be announced each term.

**Prerequisites:** Two 200-level literature courses

**ENG343 - Studies in African-American Literature**

An advanced study of selected works by African-American authors, with attention to cultural and critical contexts. Specific courses might be defined by period, movement author, genre, or theme. Recent topics have included the Harlem Renaissance and short fiction. The topic will be announced each term.

**Prerequisites:** Two 200-level literature courses

**ENG345 - Criticism and Theory**

What makes literature good? What is literature good for? How does literature produce meaning? An exploration of arguments, both historic and contemporary, about the purpose of art, standards of judgment, the nature of the creative process, the production of meaning, and the changing relationship of author, text, context, and reader.

**Prerequisites:** Two 200-level literature courses

**ENG350 - Studies in Form and Genre**

A study of texts in a single literary genre (e.g., novel, drama, poetry) or in a subcategory of a genre (e.g., autobiography, graphic novel, epic), emphasizing formal, cultural, and critical contexts. The genre will be announced each term.

**Prerequisites:** Two 200-level literature courses

**ENG355 - Studies in Literary Perspectives**

A study of texts arranged in ways other than by period, geography, or genre; works by authors outside of Britain and the United States; and literature approached theoretically (e.g., feminist, psychological, queer, postcolonial). The topic will be announced each term.

**Prerequisites:** Two 200-level literature courses

**ENG360 - Advanced Creative Writing - Poetry**

A studio course in poetry writing with a scholarly component. Class time will be divided between critical consideration of work by established writers and workshop of student writings. Students will continue to develop the formal training initiated in ENG 205 with writing projects of greater complexity.

**Prerequisite:** ENG 205

**ENG361 - Advanced Creative Writing - Fiction**

A studio course in fiction writing with a scholarly component. Class time will be divided between critical consideration of work by established writers and workshop of student writings. Students will continue to develop the formal training initiated in ENG 205 with writing projects of greater complexity.

**Prerequisite:** ENG 205

**ENG400 - Seminar**

A capstone course on a topic that varies from semester to semester and that assigns the student primary responsibility, through independent reading and research, for promoting the intellectual aims of the seminar. As part of the capstone experience, each student researches, writes, and revise a substantial, sophisticated essay and gives a public presentation based on it. Topics for 2012-13: Herman Melville (fall), Rebel Angels (spring). This course is required for English majors. By permission only.
**Prerequisite:** One 300-level literature course (two strongly recommended)

**ENG - 500, 501 Independent Study**

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

**Entrepreneurial Studies**

**Associate Professor:** Murphy (director)

The Entrepreneurial Studies Program provides students with the skills, insights, and experiences that will enable them to recognize, develop, and benefit ethically from entrepreneurial opportunities in a variety of fields based on their education in the liberal arts. The program offers both a minor and a concentration.

**MINOR REQUIREMENTS:** A total of six courses including ESP 101, ACC 211, one 200-level ESP course, two 300-level ESP courses, and one additional ESP course.

A student completing a minor in entrepreneurial studies will be prepared to create an entrepreneurial opportunity and possess a level of expertise in at least two functional areas. The minor is not available to students who have declared majors in the economics/business department.

**CONCENTRATION REQUIREMENTS:** A total of four courses including ESP 101, ACC 211, one 200-level ESP course, and one 300-level ESP course.

A concentration in entrepreneurial studies is available to any W&J student regardless of major. A student completing a concentration will have knowledge of the major topics of entrepreneurship and expertise in one functional area.

**ESP101 - Introduction to Entrepreneurship**

This course is designed to provide students with the fundamentals of entrepreneurship. Special emphasis will be given to the culture common to entrepreneurial organizations, differentiation between ideas and opportunities, assembling financial and human resources, and gaining a general background in financial analysis and modeling necessary for the successful creation of high growth businesses.

**ESP262 - Entrepreneurship and the Arts**

The presentation of the arts to the public is frequently done in the context of a for-profit or not-for-profit entrepreneurial venture. This course will first examine the functional areas of business (marketing, finance, human resource management, operations, and fundraising) as they apply to the arts world. Then the course will examine the specific applications of these functions to ventures in music, visual arts, and performing arts.

**Prerequisite:** ESP 101

**ESP301 - Business Plan Writing**

Business planning is an essential part of any entrepreneurial venture. Whether written as a tool to acquire external financing or as a guide to future internal decision making, the plan must be compelling, thorough, and well-organized. This course will provide
students with the skills and experiences necessary to produce such a business plan. Students will also learn elements of layout and storytelling as they apply to effective business plan writing.

Prerequisite: ESP 101

**ESP302 - Franchising, Licensing, and Distributorships**

Franchising, licensing, and distributorships are different applications of a rapid expansion strategy. This course will explore the unique and sometimes adversarial relationship between the franchisee and the franchiser. Further, students will examine creating and buying a franchise from the franchiser's and the franchisee's perspectives.

Prerequisite: ESP 101

**ESP320 - Entrepreneurial Marketing**

This course addresses marketing from an entrepreneurial perspective. The theories and skills learned in the class are those of particular relevance to smaller, newer, more innovative, and less risk averse businesses. Topics include product positioning, branding virtual organizations, guerrilla marketing, and new product marketing.

Prerequisite: ESP 101

**ESP394 - Entrepreneurial Finance**

Financing entrepreneurial ventures focuses on the primary financial elements necessary in starting, growing, and harvesting the venture -- assessment of opportunity, marshaling the necessary resources, and capitalizing on the opportunity. This course will include topics such as sources of capital, venture capital, valuation techniques, deal structuring, initial public offerings, and leverage buyouts.

Prerequisite: ESP 101

**ESP497 - Special Topics in Entrepreneurship**

The focus of this course will vary from offering to offering as determined by faculty interest or student need. Topics may include entrepreneurship and the life sciences, entrepreneurship and the physical sciences, sports entrepreneurship, entrepreneurship and real estate or history of entrepreneurship. The course is designed to apply principals from ESP 101 to a specific area.

Prerequisite: ESP 101

**Environmental Studies**

**Associate Professor:** East (director)

**Program Faculty Members:** Benze, Caffrey, Contreras, Greb, Gregor, Kilgore, Logan, March, Miller, North, Osborne, Pettersen, Shiller, Swift

The Environmental Studies Program's mission is to graduate men and women who are environmentally literate, socially responsible, and effective problem solvers and agents of change for the benefit of society, nature, and themselves. This will be achieved by equipping students with the tools, ideas, and opportunities to engage constructively with environmental and social issues spawned from the dynamics of globalization, human population, economic activity, and societal values. The program seeks to instill in each student a personal sense of environmental stewardship that includes an appreciation and understanding of sustainability from ecological and socioeconomic perspectives. Courses in the program empower students with the ability to apply appropriate technological and critical thinking skills. The program provides the opportunity to complete a major or minor, including opportunities to conduct independent research and complete an internship.

**MAJOR REQUIREMENTS:** A total of 10 courses, including the following five core courses that must be successfully completed:

- EVS 101 Introduction to Environmental Studies (EVS 100 Topics in Environmental Studies may be taken in lieu of EVS 101 for students declared as EVS majors)
- EVS 201 Environmental Issues in the Developed/Developing World
- one of PHL 231 Environmental Ethics, HIS 274 World Environmental History, POL 313 Environmental Policy, or EVS 315 International Environmental Policy
- BIO 320 Ecology or BIO 288 Conservation Biology
- EVS 430 Capstone Experience in Environmental Studies

In addition, students must successfully complete five elective courses as follows:
• One course from the Natural Sciences: EVS 150 (taught from physics), EVS 330, EVS 350, BIO 217, BIO 200, BIO 245, BIO 288, BIO 320, BIO 416, CHM 101, or CHM 340.
• One course from the Social Sciences: EVS 260, EVS 315, CIS 246, ANT 175, SOC 265, SOC 261, SOC 262, SOC 361, POL 313 or ECN 391.
• The remaining three elective courses may be chosen from the lists above or from the following Humanities/Arts courses: ENG 222 (Topics in Literature and the Environment), HIS 274 (World Environmental History), PHL 231, or MUS 245.

**MINOR REQUIREMENTS:** A total of six courses, including the following three core courses that must be successfully completed: EVS 101 Introduction to Environmental Studies, EVS 201 Environmental Issues in the Developed and Developing World, and EVS 315 International Environmental Policy.

In addition, students must successfully complete three electives as follows:

• One course from the Natural Sciences: EVS 150 (taught from Physics), EVS 330, EVS 350, BIO 217, BIO 200, BIO 245, BIO 288, BIO 320, BIO 416, CHM 101, or CHM 340.
• One course from the Social Sciences: EVS 260, EVS 315, CIS 246, ANT 175, SOC 265, SOC 261, SOC 262, SOC 361, POL 313 or ECN 391.
• One course from the Humanities/Arts: ENG 222 (Topics in Literature and the Environment), HIS 274 (World Environmental History), or PHL 231, MUS 245.

**AP Policy:** Students scoring a 5 on the Environmental Science AP test receive credit for EVS 101. Students earning a 4 receive credit for an elective (EVS 100) from the approved list of "Natural Science" electives. They will still have to take one more elective from Humanities OR Arts and one from Social Sciences.

**TEACHER CERTIFICATION:** Students may seek Specialty Education (grades K-12) Certification in Environmental Education by completing an academic major, the required Environmental Studies content courses (EVS 101, EVS 201, EVS 330, BIO 320, ECN 391, SOC 262, PHL 231, and POL 313) and an Education minor consisting of those courses required for Specialty Education (grades K-12) Certification.

Students may seek Upper Elementary Education Certification (4--8) in Science in one of two ways.

Option 1: Complete the Child Development and Education major and the special Environmental Studies minor: EVS 101, 201, and 330; 1 of ENG 255 (Topics: Literature and the Environment), ENG 291 (Reading and Writing Nature), HIS 274 (World Environmental History), or MUS 245, or PHL 231; 1 of EVS 130, 250 (Intersession), 260, 280, 315, CIS 246, ANT 175, SOC 261, 262, 361, POL 313 or ECN 391; 1 of EVS 150, 350, BIO 200, 245, 263, 288, 320, 416, or CHM 101.

Option 2: Complete the Environmental Studies major, the required Environmental Studies content area courses (described below), and the Education minor consisting of those courses required for Upper Elementary Education (grades 4-8) Certification. The required Environmental Studies content area courses are: 1 of EVS 150, 330, 350, BIO 200, 245, 265, 288, 416, or CHM 101; 1 of EVS 130 (Intersession), 250 (Intersession), 260, 280 (Intersession), 315, ANT 175, CIS 246, POL 313, SOC 261, 262, 361 or ECN 391.

Before being formally admitted to the program, students must satisfy-by the end of the sophomore year-the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

**EVS100 - Introductory Topics in Environmental Studies**

This course is an interdisciplinary overview of major topics in environmental studies. In addition to covering basic core concepts in ecology, natural resource economics, environmental ethics and environmental policy, each semester a different topic, or set of topics, will be emphasized. Such topics may include global warming, renewable energy, sustainability, human population and consumption, globalization, and biodiversity.

**EVS101 - Introduction to Environmental Studies**

This course introduces students to the science behind historical and contemporary topics associated with the environment. Pervasive environmental questions are addressed within the context of the natural sciences, social sciences, humanities, and arts. Through lectures, discussions, and complementary field experiences, students become familiar with major theories and practices in environmental studies. The goal/process of sustainable development is emphasized, stressing individual and community actions. Guest speakers from inside and outside the College community introduce diverse perspectives and provide insight into career opportunities. Weekly labs include field trips that provide practical experience in collecting and analyzing quantitative and qualitative data from aquatic and terrestrial ecosystems.

**EVS130 - Women, Gender, and Environment in the Developing World**
This course introduces students to some of the key theoretical debates and discourses surrounding gender issues in the developing world, with emphasis on natural resource utilization and conservation. Through focused readings, guided discussions and film, students critically review social, economic, political, and environmental policies and practices in Latin America, Africa, and Asia. Case studies are used to highlight and analyze factors such as sex ratios, biological and social reproduction, division of labor, land ownership, and participation in governance.

**EVS150 - Our Physical Environment**

This course applies basic concepts from the physical sciences to the understanding of environmental systems. The social, political, and economic context also is considered. Laboratory experiences are used to illustrate concepts from lecture and tie material from course readings to the environment. Field work provides opportunities for measurement, sampling and analysis of the physical environment.

**EVS201 - Environmental Issues in the Developed and Developing World**

This course emphasizes in-depth, critical analyses of pervasive environmental issues from local, regional, national, and international perspectives. Students gain insight into strategies employed by communities, governments, and international donor organizations to reconcile economic growth with environmental conservation. Case studies and current events are introduced to facilitate seminar-type discussions and debate.

*Prerequisite: EVS 101 or permission of the program director*

**EVS260 - Diffusion of Environmental Innovations**

This course introduces students to the role of being a professional "change agent" when working with new ideas and change. The focus is on ideas/changes within the environmental conservation/management arena and the attendant social consequences. Through a mixture of lectures, discussions, and case studies, students come to understand the processes by which innovations are adopted and diffused among people. By the end of the course, students come to know the methodologies for planning and implementing change and are able to anticipate and predict the consequences of planned change.

**EVS280 - Environment and Development in East Africa**

This three-week excursion to East Africa provides students with an opportunity to assess environmental projects being implemented by governmental and nongovernmental aid organizations. Emphasis is on interaction with project staff as they interface with farmers and pastoralists in the course of their daily activities. Students become familiar with rapid rural appraisal methodologies in assessing ecological and socioeconomic conditions. At least two full days are spent viewing wildlife in national parks. Offered Intersession of odd-numbered years.

**EVS315 - International Environmental Policy**

This course examines environmental institutions, law, and policy from a global perspective. The impacts of environmental policy on the goals and processes of sustainable development are analyzed using case studies from countries in the developed and developing worlds. Through a combination of textbook readings, journal articles, films, guest speakers and discussion, students will gain insight into the myriad opportunities and challenges attendant to creating and enacting environmental policies.

*Prerequisites: EVS 201, POL 313 or permission of the instructor*

**EVS330 - Watershed Management**

This course introduces students to the physical, biological, and ecological processes that influence hydrology on urban, forest, and rangeland watersheds. Students gain an understanding and appreciation of the complexity of the hydrologic cycle and how it affects regional and global water supplies. Attention is given to legal and economic aspects of managing fresh water as a renewable, but limited, resource. Weekly labs consist of classroom exercises to develop relevant cartographic and computational skills as well as field experiences to physically measure and assess the condition of local watersheds.

*Prerequisite: BIO 320 or EVS 201, or permission of the program director*
EVS350 - Environmental Reclamation

The course explores the challenges and opportunities attendant to efforts in environmental mitigation and remediation. Lectures/discussions highlight multi-stakeholder partnerships and autogenic repair of hydrology, nutrient cycling, and energy capture. Students learn skills in risk analysis/management and benefit-cost analysis. Case study analyses of natural and human-induced environmental disasters integrate social, economic, ethical, political, and ecological issues. Special attention is given to pervasive issues in the northeastern United States, including brownfields, wetlands, abandoned mine drainage, and degraded agricultural land. Local field trips connect students with practitioners in the professional arena.

Prerequisites: EVS 101 and 201, or permission of the program director

EVS430 - Capstone Experience

This course of guided research is the culminating experience for students in the Environmental Studies Program or for students in other programs wishing to merge their major fields of study with environmental topics. The course is begun during the fall term of the senior year by preparing and presenting a research proposal and initiating the research work. During the spring term of the senior year, research work continues, culminating in a thesis presented in written and oral form. The student is co-advised by the Director of Environmental Studies, another chosen faculty member, and/or a professional in the student's area of research approved by the Director of Environmental Studies.

Prerequisites: EVS 101 (or EVS 100), AND EVS 201, AND any 300-level EVS (or higher) OR any 200-level BIO course (or higher)

Film and Video Studies

Professors: Cameron (coordinator), Frank

Associate Professors: S. Fee, Fleury, Manzari, Maresh, Schmidt, M. Shaughnessy, Swift

Assistant Professors: Shaw

The interdisciplinary concentration in Film and Video Studies seeks to provide students with the skills and knowledge to become discriminating receivers of cinematic and tele-visual texts and, as a result, more fully engaged citizens in our high-tech, media-driven society. Students who elect this concentration will learn about film and video as arts of interdisciplinary collaboration, which combine writing, photography, editing, acting, sound design, and production design. The student can customize a program of study to emphasize one or more of the contributing arts.

CONCENTRATION REQUIREMENTS: Four courses minimum, from at least two areas of study. Students must take at least three courses from the core list -- COM 130 is required.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>COM 130</td>
<td>Film Art</td>
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<tr>
<td>COM 250</td>
<td>Topics in Communication (when topic is specific to film) Recent examples: Transgendered Film, Crime in American Cinema</td>
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<tr>
<td>COM 330</td>
<td>Film in Context (Recent examples: Science Fiction Film; Hitchcock)</td>
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<tr>
<td>COM 340</td>
<td>Television and American Culture</td>
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<td>COM 381</td>
<td>Screenwriting</td>
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<td>GER 289</td>
<td>German Film</td>
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<tr>
<td>CIS 365</td>
<td>Digital Film</td>
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Financial Economics

Professor: Gregor

Associate Professor: Wang (coordinator)

Assistant Professors: L. Dunn

Visiting Assistant Professor: Le

The financial economics major at Washington & Jefferson College concentrates on the integration of the primary components of modern financial analysis – economic theory, financial theory, and mathematic analysis. It is intended to better prepare students for graduate work in finance or admission to top M.B.A. programs. Our program differs from traditional undergraduate finance majors offered in colleges of business in that it includes significantly more economic theory and mathematics and thereby better prepares the student for success in graduate school. Traditional undergraduate programs in finance tend to be more narrowly focused, whereas W&J's financial economics program offers a broad background in the liberal arts tradition and provides the student with the combination of economic theory, mathematics, and finance necessary for success beyond the entry level positions in the various fields of finance. Students completing the major will be prepared for both future employment and graduate study in this field.

Courses within the major will cover three major areas of financial economics, including financial markets and institutions, investment, and corporate finance. They discuss topics such as the analysis of financial statements, financial structure of a firm, capital budgeting and structure, asset valuation, investment instruments, portfolio management, hedging, insurance, risk management, exchange rates, money supply and demand, monetary policy, interest rates, financial markets and regulation, and the operation of financial institutions.

Financial economics, like other economics fields, is a highly quantitative subject that requires skills in calculus, probability and statistics, and spreadsheet packages such as Excel. Students who choose to complete this major are strongly encouraged to complete additional mathematics courses beyond those required for the major. We also encourage students to take the Chartered Financial Analyst (CFA) exam at the last year of their study.

Students with an interest in finance who do not plan to pursue graduate work are encouraged to consider completing the financial economics emphasis in the economics major.

MAJOR REQUIREMENTS: ECN 101, ECN 102, ECN 201, ECN 202, ECN 302, ECN 303, ECN 341, ECN 342, ECN 440, ECN 498, ACC 211, MTH 151, MTH 152, MTH 208, MTH 217, MTH 225; and any one of the following four courses: ACC 317, ECN 352, ECN 422, or ECN 425.

NOTE: Students majoring in Financial Economics may not double major in Business Administration, Accounting, or Economics. Students majoring in Financial Economics may obtain a minor in Accounting or Business Administration, but not Economics.
First Year Seminar

**Director:** Malinak

First Year Seminar (FYS), required of all first year students during the Fall Term, is both an intensive study of a focused topic and an introduction to the intellectual life of the College. We offer dozens of exciting topics taught in a discussion-based environment to promote student engagement and intellectual curiosity. The course helps students make the transition to college-level work by emphasizing academic skills such as critical reading, thinking, and analysis. FYS instructors also serve as their students' academic advisors for the duration of the first year.

- Classes are kept small and are structured to encourage discussion
- Thought-provoking topics reflect the instructors' passions
- Living/learning communities: students in some seminars will be housed together in the residence halls, extending the academic conversation beyond the classroom

First Year Seminar faculty are selected from professors across all the departments of the College to teach FYS 199.

**FYS199-First Year Seminar**

All new full-time, first-year students must complete a First Year Seminar as an introduction to the liberal arts, the College, and college-level expectations. The First Year Seminar is a graded course which gives students the opportunity to study a well-defined subject in a small group. Seminars aim to develop a range of learning skills, such as reading, writing, speaking and quantitative analysis, depending on the content of the individual seminar. Special emphasis will be placed on critical analysis of the subject in question, both in writing and class discussion. Seminars also provide opportunities to participate in a range of cultural and intellectual events. First Year Seminar instructors serve as academic advisors to students in the Freshman class.

*Offered: Fall term only*

**French**

**Associate Professors:** Pflanze (program coordinator), Taylor

The Department of Modern Languages offers a major and a minor in French language and francophone literatures and cultures. Students learn the skills, knowledge, and qualities necessary to interact in culturally appropriate ways with francophone speakers. This is accomplished through immersing students in culturally authentic contexts both in and out of the classroom.

**PLACEMENT PROCEDURES:** All entering freshmen with prior experience in French will receive language placement by French program faculty. This placement will determine their first course in the sequence. Because of the varying requirements for completing a French major or minor, it is to the student's advantage to begin at the highest level possible. NOTE: Students who have completed coursework at one level may not take courses at a lower level without departmental approval.

**MAJOR REQUIREMENTS:** Since the Department of Modern Languages offers advanced placement, requirements for the French major vary according to entry level. All entering freshmen with prior experience in French will receive language placement by French program faculty. Because of the varying requirements for completing a major or a minor in French, it is to the student's advantage to begin at the highest level possible, usually FRN 207 or FRN 208. However, students with very limited or no background in French will begin their studies with FRN 105 or FRN 106.

Students who begin in 207 will take eight courses, including 207 , 208 , 309 , 310 , and three 400-level courses. With prior approval, one departmental course taught in English translation or one extra-departmental course of appropriate content may count toward the major. Students who begin in 208 can complete a major with seven courses, excluding 207.

Students who begin in 309 will take six courses, including 309 , 310 , three 400-level courses, and at least one additional course above 200. No course taught in English may count toward the major.

Students majoring in French are required to complete a capstone experience, which may be satisfied in one of the following ways:

1. An oral presentation via PowerPoint in French. Following return from study abroad, the student will present an overview and intercultural analysis of his/her experience to an audience of French faculty and students.
2. A course-related research paper of approximately 15 pages on a substantive topic decided in conjunction with the instructor. This would normally be completed in the term preceding graduation as part of a seminar course curriculum, such as FRN 420, Topics in Francophone Cultures or FRN 457, Topics in Francophone Literature. The instructor of the course sets specific
guidelines for the paper, according to the course topic.
3. A portfolio in French, either paper or electronic, attesting to the student's achievement in all of the five national standards: Communication, Culture, Connections, Comparisons, and Communities (see Departmental Mission Statement). In addition to the portfolio project, the student will complete a Simulated Oral Proficiency Interview in French (SOPI).

In each case, capstones must be completed by the time the student petitions for graduation, except if completing a research paper in the term before they graduate. In this case, satisfactory progress toward completion of the project must be demonstrated by the time graduation petitions are presented to the program coordinator.

French majors are permitted to double major in either German or Spanish.

**STUDY ABROAD:** All modern language majors (currently French, German, and Spanish) must spend a minimum of one semester, or the academic equivalent, on a study abroad program, course of study, or internship approved by the language program director. The approved program must follow general College study-abroad guidelines.

**MINOR REQUIREMENTS:** Like the major, French minor requirements vary according to entry level. All entering freshmen with prior experience in French will receive language placement by French program faculty. Because of the varying requirements for completing a major or a minor in French, it is to the student's advantage to begin at the highest level possible, usually FRN 207 or FRN 208. However, students with very limited or no background in French will begin their studies with FRN 105 or FRN 106.

Students who begin in 207 will take five courses, including **207**, **208**, **309**, **310**, and one 400-level course. Students who begin in 208 must still take five courses to complete a minor.

Students who begin in 309 are not eligible for a minor.

**NOTE:** Students who have completed coursework at one level may not take courses at a lower level without departmental approval.

**AP Policy:** Students scoring a 4 or 5 on the French language AP exam receive credit for FRN 207AP in that language.

**PLACEMENT PROCEDURES:** All entering freshmen must receive language placement for languages with which they have prior experience. This placement will determine their beginning level of that respective language. Placement is done in consultation with the faculty member from the relevant program. Because of the varying requirements for completing a major or minor in language, it is to the student's advantage to begin at the highest level possible.

**TEACHER CERTIFICATION:** Students may seek Specialty Education (grades K-12) Certification in French by completing the French major including FRN 260, and an Education minor consisting of those courses required for Specialty Education (grades K-12) Certification. Before being formally admitted to the program, students must satisfy-by the end of the sophomore year-the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

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**FRN105, 106 - Elementary French I, II**

This course is an introduction for students with little or no knowledge of French. Emphasis is on basic structures and vocabulary required to communicate in a variety of routine contexts. Students learn strategies to assist in reading authentic contemporary texts for informational purposes. Cultural study focuses on the diversity of the francophone world and on fundamental aspects of daily life in France.

_Taught largely in French._

**Prerequisite:** FRN 105, or permission of the instructor, is a prerequisite for FRN 106

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**FRN207, 208 - Intermediate French I, II**

This course features review and extension of communication skills for students having a basic knowledge of French; mastery of basic listening, speaking, reading, and writing skills to negotiate daily living situations and to express ideas and opinions, and frequent short writing assignments. Students learn skills to read and interpret authentic texts representing a diversity of individual francophone perspectives.

_Taught in French._

**Prerequisites:** FRN 106, or permission of the instructor, is a prerequisite for FRN 207; FRN 207, or permission of the instructor, is required for FRN 208
FRN257 - French Literature in Translation

This course concentrates on a topic that varies from year to year. Likely topics include a survey of French literature, avant-garde theatre, Molière, and utopian fictions. The topic to be dealt with will be published in the preregistration bulletin.

Taught in English.

FRN260 - Theory and Techniques of Teaching Modern Foreign Languages

This course is an introduction to the theoretical and practical aspects of teaching modern foreign languages. Students will study the history of language teaching as well as the various approaches and strategies to language instruction and their relationship to second-language acquisition theory. This course must be completed prior to student teaching. Taught in English. This course satisfies the Pennsylvania Department of Education requirement that candidates for certification in foreign languages receive instruction in methods of teaching foreign languages, a subject which in the last 50 years has developed an extensive literature and repertoire of theoretical approaches.

Offered fall term, every other year

Prerequisites: Sophomore status and permission of the instructor

FRN309, 310 - Advanced French I, II

This course focuses on the development and application of advanced functional French language skills, with special emphasis on speaking and writing. Reinforcement and extension of sophisticated grammar concepts sufficient to allow students to speak and write at length on topics increasingly unrelated to personal experience. Reading and intercultural skills are developed through a content-based approach focusing on contemporary issues.

Taught in French.

Prerequisites: FRN 208, or permission of the instructor, is a prerequisite for FRN 309; FRN 309, or permission of the instructor, is required for FRN 310

FRN357 - Introduction to Literary and Cultural Studies

An introduction to the study of French and francophone cultures through literature. Students are introduced to the diversity of francophone cultural perspectives through a comparative approach to literary texts and themes in popular culture. They learn to analyze and explicate texts from multicultural perspectives, while mastering fundamental notions of style and narrative point of view.

Prerequisite: FRN 310 or permission of the instructor

FRN371 - Business Communication and Culture

An intensive, advanced level French course designed to develop the linguistic skills and cultural competency necessary for working in a business environment in the French-speaking world. This course provides an overview of the socio-historical contexts and contemporary business practices in metropolitan France. In addition, the course will prepare students for more in-depth study abroad.

Taught in French

This course counts only towards the International Business major.

Prerequisite: FRN 310 or permission of the instructor

FRN411 - Cultural History of France
Designed to give a broad overview of French history, this course introduces students to some of the major political, historical, and intellectual forces that have shaped French society from Gallic times through the Fifth Republic. Readings, discussions, and student presentations center on prominent personalities and cultural achievements. Each period is illustrated by representative works of literature and the visual arts.

*Prerequisite: FRN 310 or permission of the instructor*

**FRN420 - Topics in French and Francophone Cultures**

A study of the culture of various French-speaking societies, this course offers an in-depth look at contemporary or historical phenomena that shape specific francophone perspectives. Possible topics include Les Français à travers leurs films, le Québec contemporain, and Voix francophones. Emphasis is given to advanced language study, composition, and oral proficiency. The topic to be dealt with will be published in the preregistration bulletin.

*Prerequisite: FRN 310 or permission of the instructor*

**FRN457 - Topics in French and Francophone Literature**

A course in reading and interpreting French literature in esthetic and cultural contexts, students read and gain an appreciation of texts from a variety of genres and historical periods. The topic, such as écriture féminine, contes fantastiques, le Siècle des lumières, la Vie artistique et intellectuelle française de 1750-1900, fictions et films fantastiques et utopiques, varies from year to year and will be published in the preregistration bulletin.

*Prerequisite: FRN 310 or permission of the instructor*

**FRN500, 501 - Independent Study**

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

**Gender and Women's Studies**

**Steering Committee**

**Professors:** Benze, Kyler (director), Wilson

**Associate Professors:** Holland-Minkley, McEvoy, Shiller, Taylor

**Affiliated Faculty**

**Professors:** Bennett, Hannon, Lambertson, List, Longo, Pettersen, Troost, Vande Kappelle, West, Woodard

**Associate Professors:** Carpenter, DeBerry, East, T. Fee, Fleury, Gottschall, Harding, Kline, Malinak, Maresh, McDonald, Medley, Mayer, Pflanze, C. Shaughnessy, M. Shaughnessy, Swift, Wolf

The gender and women's studies minor is an interdisciplinary course of study in the liberal arts that centers on issues of gender, sexuality, and the ways gender and sexuality shape human experience through history and across cultures.

**MINOR REQUIREMENTS:** Six courses are required for the completion of the minor. They are GWS 100: Introduction to Gender and Women's Studies; GWS 300: Theories of Gender; and four additional courses approved by the Gender and Women's Studies Steering Committee. These four elective courses must represent at least two academic divisions (arts, humanities, social sciences, sciences, and/or professions).
With approval, a student may complete an internship or independent study as one of these courses—in fact, this option is encouraged. Also with approval, a student may take, as a gender and women's studies elective, a course not normally approved in which the student arranges to focus his or her own work on gender and women's studies issues.

GWS100 - Introduction to Gender and Women's Studies

This is an interdisciplinary course that will introduce students to the field of gender and women's studies. Students will consider both female and male experience and will study the concept of gender as a critical category informed by race, class, ethnicity, sexuality, and culture. Students will gain a clearer understanding of how individuals in various cultures learn, negotiate, and accept or resist their gender roles, as well as the significance of gender historically and in contemporary life.

GWS210 - Topics in Gender and Women’s Studies

A study of a selected topic in gender, sexuality, women's studies, or men's studies. Topics vary from year to year. The course may be repeated for credit if the topic differs.

Prerequisites: Determined by instructor

GWS300 - Theories of Gender

An introduction to major theoretical positions in gender studies and feminism. Students will become familiar with the historical background that has shaped contemporary discourse about gender and sexual identity. Readings will ask students to consider the impact of feminist theory; gay, lesbian, and transgender studies; and multiculturalism on our understanding of gender.

Prerequisite: GWS 100

GWS500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

German

Associate Professor: M. Shaughnessy

Assistant Professor: Atzler (program coordinator)

Instructor: Altmeyer

The German major and minor programs are offered through the Department of Modern Languages.

The German program at W&J is a culturally centered program designed to teach students about the language, the people, and history of German-speaking countries. Students will learn to effectively use the German language and knowledge of the culture in contemporary society. Students of German are encouraged to use the liberal arts tradition to go beyond their German classes and demonstrate interdisciplinary skills as a core part of the course of study.

The German program is a proficiency-based language program. This means that at various levels (100, 200, 300, and 400)
students must demonstrate standards-based abilities in German. Classes at the 100 level are elementary in nature and focus on everyday interactions, basic exchanges of information, and a functional notion of the culture. Classes at the 200 level are intermediate in nature and require students to be able to understand a wider variety of spoken German. Students are introduced to literature and are asked to make connections between disciplines. Classes at the 300 and 400 levels are designated as "advanced level." These classes require students to express themselves verbally and in written form on a wide variety of cultural and practical topics. Additionally, these classes are taught exclusively in German.

**MAJOR REQUIREMENTS:** Students must take six advanced level classes, three of which must be at the 400 level.

For the major, students must complete an approved capstone project in conjunction with an electronic portfolio. Possible capstone experiences include a study abroad experience of at least one term; a special project associated with a 400-level course or independent study; or a language intensive internship.

German majors are permitted to double major in French or Spanish.

**STUDY ABROAD:** All modern language majors (currently French, German, and Spanish) must spend a minimum of one semester, or the academic equivalent, on a study abroad program, course of study, or internship approved by the language program director. The approved program must follow general College study-abroad guidelines.

**MINOR REQUIREMENTS:** Students must take three advanced level classes, one of which must be at the 400 level.

**NOTE:** Students who begin in 309 are not eligible for a minor. Course requirements for the major and minor beyond 208 must be taken at W&J, with the exception of preapproved study abroad programs.

Students who have completed coursework at one level may not take courses at a lower level without departmental approval.

**AP Policy:** Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.

**PLACEMENT PROCEDURES:** All students taking a language at W&J must take the student information questionnaire prior to enrollment in that language. Students with a background in this language must also complete the computerized adaptive placement exam (CAPE). Incoming freshmen will usually take the exam prior to registration during summer orientation, but the exam may be administered at any time. The results of the questionnaire and exam will usually determine the level at which a student will begin a course of study in the language. A student who falls at the high or low end of a scoring range may be placed higher or lower than the course indicated, depending on the number of years of language the student has had. Placement in these situations is done in consultation with a faculty member from the relevant program. Because of the varying requirements for completing a major or minor in language, it is to the student's advantage to begin at the highest level possible.

**TEACHER CERTIFICATION:** Students may seek Specialty Education (grades K-12) Certification in German by completing the German major including GER 260, and an Education minor consisting of those courses required for Specialty Education (grades K-12) Certification. Before being formally admitted to the program, students must satisfy-by the end of the sophomore year-the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

**STUDY ABROAD:** The German program offers four programs for students to study abroad at various levels. Courses are offered as a part of the standard program through W&J. Courses have to be approved by the respective departments at W&J to transfer credits.

- **PCIC in Cologne.** This Fall term program offers students in any major who have completed at least one year of German the opportunity to experience Germany to the fullest--its people, culture, and above all, the native language. Courses are offered in English and German and are tailored to American students. Cologne is Germany's fourth largest city and located on the Rhine River with easy rail connections to every major city in Germany and Europe. Interested students should contact the German program coordinator.

- **Lewis & Clark Year of Study in Munich.** This 12-month program through the University of Munich and Lewis & Clark College is intended for juniors who have completed at least four terms of German at W&J. This program is the ideal way to solidify a student's knowledge of German and take part in a life changing experience fully immersed in the German culture. Considered to be one of the best study abroad programs in the United States, this program offers small, liberal arts-style classes in Munich, Germany. This program is intended for German majors and science majors with appropriate language ability. Interested students should contact the German program coordinator.

- **W&J-UniKöln Exchange Program.** The University of Cologne, Germany, and W&J have an established upper-level, two-way exchange program. Advanced-level students in German can directly enroll at this exciting, metropolitan University in the heart of Germany. Students typically live in a German dormitory with other German students and take regular courses at the University in German literature, English literature, or education. This program is ideal as a capstone experience for juniors or seniors seeking additional academic opportunities and independent studies. Interested students should contact the German program coordinator.

- **W&J-UniWien Exchange Program.** The University of Vienna, Austria, and W&J have an established upper-level, two-way exchange program. Advanced-level students in German can directly enroll at this exciting, metropolitan University in the capital city of Austria. Students live in a dormitory with other students and take regular courses at the University in German literature, English literature, or other courses (preapproval of W&J departments necessary). This program is ideal as a capstone experience for juniors or seniors seeking additional academic opportunities and independent studies. Interested students should contact the German program coordinator.
GER105, 106 - Elementary German I, II

An introduction for students with little or no knowledge of German, this course emphasizes fundamentals of grammar, acquisition of vocabulary, listening comprehension, basic oral expression, elementary writing, and short readings on topics pertaining to Germanic culture.

*Taught largely in German.*

*Prerequisite: GER 105, or permission of the instructor, is a prerequisite for 106*

GER207, 208 - Intermediate German I, II

An intensive review with frequent practice in oral expression and listening comprehension, this course places special emphasis on developing reading and writing skills via encounters with authentic texts and videos.

*Taught primarily in German.*

*Prerequisites: GER 106, or permission of the instructor, is a prerequisite for 207; GER 207, or permission of the instructor, is a prerequisite for 208*

GER235 - Introduction to the German-Speaking World

This course introduces students to the culture, history, and life of the people who live in the German-speaking countries of Europe including modern day Germany, Austria, and Switzerland. Students learn about the long and diverse history of these people while simultaneously learning about the cultural aspects that shaped life in these regions. Through film, text, audio, and images, students will learn about the art, literature, history, and linguistic aspects of life in German-speaking Europe from the early beginnings to the modern day.

*This class is taught in English and does not fulfill the language requirement.*

GER257 - German Literature in Translation

This course is a study of a special topic, such as nineteenth-century German literature, the modern German novel, or the work of a particular author. The topic to be studied will be announced during preregistration.

*This course is taught in English and does not fulfill the language requirement.*

*Prerequisite: ENG 111, 112, or permission of the instructor*

GER260 - Theory and Techniques of Teaching Modern Foreign Languages

This course is an introduction to the theoretical and practical aspects of teaching modern foreign languages. Students will study the history of language teaching as well as the various approaches and strategies to language instruction and their relationship to second-language acquisition theory. This course is taught in English and must be completed prior to student teaching. This course satisfies the Pennsylvania Department of Education requirement that candidates for certification in foreign languages receive instruction in methods of teaching foreign languages, a subject which in the last 50 years has developed an extensive literature and repertoire of theoretical approaches.

*Offered fall term, every other year*

*Prerequisites: Sophomore status and permission of the instructor*

GER289 - German Film
This course will introduce students to trends and examples from the German cinematic tradition. Students will view and analyze various film genres starting with Weimar cinema and continuing through present day German language films. This course will present films within their historical and cultural context. Representative films will be chosen for each period including Weimar Republic, National Socialism, zero hour, economic miracle, sixties, seventies, eighties, nineties, and post unification.

This course is taught in English and does not fulfill the language requirement.

**GER309, 310 - Advanced German I, II**

A course on the development and application of advanced German language skills, with special emphasis on speaking and writing. A variety of texts, videos, Web sites, etc., serve as thematic points of departure for daily discussions, frequent writing assignments, and oral presentations. The course also includes systematic review of sophisticated grammar topics.

*GER 309 is generally offered in the fall term; GER 310 in the spring term.*

Taught in German.

Prerequisites: GER 208, or permission of the instructor, is a prerequisite for 309; GER 309 is a prerequisite for 310.

**GER371-Business Communication and Culture**

An intensive, advanced level German course designed to develop the linguistic skills and cultural competency necessary for working in a business environment in the German-speaking world. This course provides an overview of the socio-historical contexts and contemporary business practices in a variety of German-speaking regions. In addition, the course will prepare students for more in-depth study abroad.

Prerequisite: GER 310 or permission of the instructor

**GER455 - Survey of German Literature**

A course designed to give students a broad understanding of German literary history. The works examined will span multiple literary movements to reveal the evolution of literary trends and to demonstrate how writers of a period engage in dialog with their artistic forebears. The period to be studied in a given session will be announced during preregistration.

Taught in German.

Offered in the fall term of even-numbered years

Prerequisite: GER 310 or permission of the instructor

**GER456 - Topics in German Literature**

Focused study of a special topic in literature varying from year to year. Likely concentrations include genre studies, in-depth analysis of a seminal work, or the work of a particular author. The topic to be studied in a given session will be announced in the preregistration schedule.

Taught in German.

Offered in the spring term of odd-numbered years

Prerequisite: GER 310 or permission of the instructor

**GER485 - Cultural History of Germany**
A survey of German cultural and intellectual history from the Middle Ages to the twentieth century, with an emphasis on art, literature, philosophy, politics, religion, and science, this course features discussions, oral presentations, and compositions as well as review of advanced grammar as necessary.

*Taught in German.*

*Offered in the fall term of odd-numbered years*

*Prerequisite: GER 310 or permission of the instructor*

**GER486 - Topics in German Culture**

This course focuses on German cultural topics, which vary from year to year, with emphasis on nonliterary aspects of culture. Possible topics include German-Americana, film history, art movements, or how a variety of cultural media reveal the spirit of a particular period of German history. The topic or topics to be studied in a given session will be announced during preregistration.

*Taught in German*

*Offered in the spring term of even-numbered years*

*Prerequisite: GER 310 or permission of the instructor*

**GER500, 501 - Independent Study**

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

**Graphic Design**

**Associate Professors:** S. Fee (CIS coordinator), Schmidt (art coordinator)

Graphic design is the study and implementation of the theory and production techniques pertaining to graphic images of any form. Theories of graphic design encompass the realms of art, design, and visual culture. Production techniques involve such activities as drawing, illustration, and the production of digital imagery. Students who complete the graphic design concentration will learn to develop sophisticated imagery that is reflective of their personal style. These students can then participate in the fields of art, graphic design, illustration, multimedia production, and Web development, among others.

To complete this concentration, a student must complete the following courses: ART 108, ART 112, CIS 271, CIS 361, and ART 425.

This course of study is available to all students regardless of major.

**Health Professions Program**

**Associate Professor:** Klitz (Committee on Health Professions chair)

Students preparing for admission to graduate schools in the health professions may elect to major in any discipline. If they wish to be recommended to professional schools by the Committee on Health Professions, they should register with the Committee on Health Professions as early as possible, and maintain that registration during their undergraduate preparation. The committee provides recommendations for applicants to health-professional schools in the fields of allopathic medicine, osteopathic medicine,
dental medicine, veterinary medicine, podiatric medicine, optometry, physical therapy, occupational therapy, or physician assistant studies. To secure a recommendation from the committee, in addition to the requirements of a major, a student must successfully complete the 10 to 13 courses in biology, chemistry, mathematics, physics, English, psychology, or sociology as designated for their chosen career goals in the Student Pre-Health Handbook. This document is available from the Committee on Health Professions and on the pre-health webpage.

The College has agreements regarding admission of qualified students to the Temple University School of Medicine; the Chatham University School of Physical Therapy; the Pennsylvania College of Optometry at Salus University; the Saint Francis University Department of Physician Assistant Sciences; and the Chatham University Program of Master of Physician Assistant Studies. Details are available in the Student Pre-Health Handbook.

**History**

**Professors:** Dodge, Gormly, List, Mainwaring (chair)

**Associate Professor:** Caffrey

The Department of History is a supportive and intellectually invigorating academic home for students who want to develop the knowledge and skills needed to appreciate the past and thrive in the future. The department offers more than 40 courses, with particular strengths in American, European, and East Asian history. Majors and minors complete requirements that are distributed in a way that ensures both depth and breadth.

**MAJOR REQUIREMENTS:** 10 courses, including at least two from European history; two from American history; one from a non-U.S. or European course, and at least four from courses numbered above 300. All majors are strongly urged to complete the second-year course in a foreign language. All seniors must complete a capstone project prior to the end of their final term. Students should consult the history department chair for more information on the capstone requirement.

**MINOR REQUIREMENTS:** Six courses, as follows: two courses in American history; two courses in European history; one course from a non-U.S. or European course; and two courses above 300. No more than two courses at the 100 level may be counted toward the minor.

**AP Policy:** Students scoring a 5 on the American History AP test will receive credit for one of the following: HIS 201, HIS 204, HIS 206. (Students can choose which course they want credit for.) Students scoring a 4 on the American History AP test will receive credit for one of the courses listed above upon successful completion of a 200-level history course at W&J with a grade of “B” or better. Students scoring a 5 on the European History AP test receive credit for HIS-102 and are advised to take a 200-level course as their first history course at W&J. Students scoring a 4 on the European History AP test receive credit for HIS-102 upon successful completion of a 200-level history course at W&J with a grade of “B” or better.

**TEACHER CERTIFICATION:** Students may seek Secondary Education (grades 7-12) Certification in Social Studies by completing the History major, the required Social Studies content area courses (HIS 201, HIS 204, HIS 206, HIS 228, HIS 231, ECN 102, POL 111, PSY 101, SOC 101, SOC 261, and ANT 175), and the Education minor consisting of those courses required for Secondary Education (grades 7-12) Certification. Some of the Social Studies content area courses may be completed as part of the History major.

Students may seek Upper Elementary Education Certification (4-8) in Social Studies in one of two ways: Option 1: Complete the Child Development and Education major and the History minor (or major); Option 2: Complete the History major, and the Education minor consisting of those courses required for Upper Elementary Education (grades 4-8) Certification.

Before being formally admitted to either program, students must satisfy-by the end of the sophomore year-the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

The department recommends that students seeking Upper Elementary Education Certification (4-8) in Social Studies consider taking some of the following courses as part of their major or minor: HIS 101*, HIS 102*, HIS 155*, HIS 201, HIS 204, HIS 206, HIS 220, HIS 222, HIS 230, HIS 254, HIS 331, HIS 332, HIS 334, HIS 340, HIS 355. Occasionally, special topics courses (HIS 270 or HIS 412) may be offered in topics particularly useful for students interested in teaching.

*Students minoring in History with permission of the History Department Chair, may be allowed to take HIS 101, HIS 102, and HIS 155 as part of their minor (exceeding the maximum of two 100 level courses).

**HIS101 - European Civilization I**

This course is a survey of the development of European civilization from the fourth century A.D. to the Reformation.

*HIS 101, 102, and 151 are for freshmen and sophomores only.*
HIS102 - European Civilization II
This course is a survey of the development of European civilization from the sixteenth century to the present.

HIS 101, 102, and 151 are for freshmen and sophomores only.

HIS151 - Asian Heritages
An introduction to the histories and cultures of China, Japan, Korea, Vietnam, India, and Tibet through the exploration of such themes as colonization and imperialism, modernization efforts undertaken to meet the challenges posed by the West, family relations, farming, food, literature, painting, Buddhism, Asian immigration to the U.S., and contemporary popular culture. Emphasis will be on the middle of the nineteenth century to the present. No prior knowledge of Asia is expected.

HIS 101, 102, and 151 are for freshmen and sophomores only.

HIS201 - Colonial America and the American Revolution
This course is a study of America in the seventeenth and eighteenth centuries.

HIS204 - Nineteenth-Century America
This course is a study of American development from the early republic to World War I.

HIS206 - Twentieth-Century America
This course is an extensive study of the events and historiography of modern American history from the Spanish-American War to the present.

HIS210 - U.S. Economic History
A study of the sources and consequences of economic and social change from colonial to recent times, this course is the same as ECN 306. However, students who enroll for credit in economics shall complete an additional research assignment in economic history.

HIS215 - United States Diplomatic History from 1898 to the Present
This course is an intensive study of the events and historiography of American foreign relations from the Spanish-American War to the present.

HIS220 - Ancient Civilization
A study of ancient Greek and Roman society and culture, course topics include the rise of Greek city-states, the development of a distinctive Greek intellectual and political culture, the destruction of Greek political and economic dominance, the rise and
expansion of Roman political and military power, its influence on surrounding peoples, the rise of Christianity, and the military and social collapse of the Roman Empire.

**HIS222 - Medieval Civilization**

The development of Europe from the Age of Charlemagne (ca. 800 A.D.) to the fourteenth-century crisis emphasizing the emergence of a distinctly Western culture and society, the evolution from feudal to central monarchies, and the conflict between papacy and monarchy.

**HIS224 - Europe from Absolutism to Revolution**

The study of European history from 1648 to 1815 with special emphasis on the development of the bureaucratic state, the development of inter-state relations, the intellectual transformation of the eighteenth century, and the crisis of the old regime culminating in the era of the French Revolution.

**HIS228 - Nineteenth-Century Europe**

The chronological span is from the Congress of Vienna to the outbreak of World War I. The analytical focus of the course is the development of the concepts of political and social liberalism with an emphasis on the role of nationalism.

**HIS230 - Twentieth-Century Europe 1919-1945**

From the end of World War I and the Paris Peace Conference to the end of World War II, specific themes and topics that will be considered during this course are the collapse of the Romanov, Hohenzollern, Habsburg, and Ottoman Empires; the ideal and reality of national self-determination; the emergence of the Soviet state; the tragedy of the Weimar Republic; the rise of the dictators; aggression and appeasement; and World War II.

**HIS231 - Post-World War II and Contemporary European History-From the End of World War II to the Present**

The course will examine the two major themes in post-World War II Europe -- the Cold War and European integration, which began with the European Coal and Steel Community (ECSC) in 1950 and has transformed itself into the European Union (EU) today. The Cold War began and ended within the period, but the integrative process is ongoing.

**HIS235 - History of England I**

This course is an introduction to English history from the first settlements in Britain to 1714.

**HIS236 - History of England II**

This course is an introduction to English history from 1714 to the present.
HIS237 - Modern German History 1700-1890

From the establishment of the Kingdom of Prussia to the dismissal of Otto von Bismarck as Chancellor of the Second Reich, this course places special emphasis on the struggle for the domination of Germany between the Austrian Habsburgs and the Prussian Hohenzollerns up to the Austro-Prussian War in 1866, the Bismarckian policy of "blood and iron," and the Prussianization of Germany in the Second Reich.

HIS238 - Germany's Unity and Fragmentation 1890 to the Present

From the dismissal of Bismarck as chancellor to the reunification of Germany in 1990 and contemporary Germany's role in the European Union, this course's focus includes the Second Reich's responsibility for World War I, the inherent weaknesses of the Weimar Republic, the Third Reich as an attempt to de-Prussianize Germany, and the division of the German nation into the German Federal Republic and the German Democratic Republic.

HIS239 - Kiev, Muscovy, and Russia

A survey of Russian history from the so-called "coming of the Varangians" in the ninth century and the subsequent Kievan period, the Mongol domination and the rise of Muscovy, Petrine Russia, to 1894. Special attention is given to an analysis of "official nationality," the "Great Reforms," and the early revolutionary movements in the nineteenth century.

HIS240 - Russia, the Soviet Union, and the CIS

The chronological parameters of this course are from the reign of Tsar Nicholas II to the formation of the Commonwealth of Independent States (CIS). Special attention is given to the 1905-1917 period, including the February and October Revolutions, Stalin's Russia, the attempted reforms of Khrushchev and Gorbachev, the August 1991 Putsch, and the era of Boris Yeltsin, including the "October Days" of 1993, the Duma elections, and constitutional referendum in December 1993.

HIS250 - History of Modern Japan

This course examines Japanese culture and history from the unification of Japan and the Tokugawa Shogunate to the present. The course will examine the political, social, and cultural development of modern Japan and Japan's role in world affairs.

HIS254 - Ancient China

This course is an examination of social and political developments in China from the prehistoric origins of Chinese civilization through the eve of China's conquest in the mid-seventeenth century by a coalition led by Manchus.

HIS255 - History of Modern China

Social and political developments in China from mid-seventeenth century to the present are studied. Emphasis is on the interactions between culture and modernization efforts.

HIS260 - Latin American History to Independence

This course is a survey history of the pre-colonial and colonial period of the area known as Latin America through the Wars of
Independence.

**HIS261 - Latin American History from Independence to the Present**
A survey history of Latin America from Independence in the early nineteenth century to the present, this course has special emphasis on the national histories of Argentina, Chile, and Mexico.

**HIS270 - Topics in Historical Studies**
This course will examine selected topics in history. Topics will vary according to available faculty and student interest. This course may be repeated for credit if the topic of the course differs.

**HIS274 - World Environmental History**
This course is a thematically and geographically comprehensive survey of world environmental history from the dawn of agriculture to the present. The course will investigate how humans have affected natural environments at the local, regional, and global levels, why those effects occurred, and how such changes have affected humans and other life forms. No prior study of environmental science or world history is necessary.

**HIS302 - Europe Transformed-Renaissance and Reformation, 1450-1650**
This course is a study of the cultural and religious transformation of Europe focusing on the emergence of humanism, the rise of Protestantism, and the resurgence of Catholicism.

**HIS304 - History of Modern Eastern Europe**
This course will focus on the history of Eastern Europe from 1648 to the present with special attention to the themes of big power domination and the rise of nationalism.

**HIS308 - Tudor-Stuart England**
Aspects of English governance and society between 1485 and 1689 will be studied, including the English Reformation and the establishment of the Anglican Church, the emergence of the modern English state, the revolutions of the seventeenth century, and the English scientific revolution.

**HIS310 - Legal History of England and America**
This course is a seminar approach to the study of the legal heritage of England and the United States, from the medieval period to the present.

**HIS315 - The Intellectual History of Modern Europe**
This course is a survey of European thought from the Enlightenment to the present.
**HIS320 - Modern European Diplomatic History**

A survey of European international relations from the Congress of Vienna (1815) to the Helsinki Final Act (1975), this course gives special attention to whether a “balance of power” or “consensus of power” existed from 1815 to the Crimean War; the evolvement of contentious alliance systems (1870s to 1918); the failure of collective security in the interwar period; and the Cold War.

**HIS321 - Historical and Contemporary Moscow**

A two-week course in late May/early June at the International University of Moscow, an education institution with which Washington & Jefferson College has a formal agreement. The course will consist of 24 contact hours in Russian language taught by IUM Russian language instructors and six hours of formal lectures in English presented by specialists in economics, culture, politics, and history. Sightseeing will include the Kremlin; Park Pobeda (Victory Park), commemorating the Soviet victory over Nazi Germany in World War II; the tomb of the Unknown Soldier in the Alexander Gardens, adjacent to the Kremlin; Novodeveichey Cemetery and Convent; Tret'yakov Gallery of Russian Art; the State Duma; the Bolshoi Theater; and an overnight to the ancient cities of Vladimir and Suzdal.

This is the same course as RUS 212. Students who register for HIS 321 must select a historical and/or cultural topic and have it approved by the instructor before the course begins. The student will do some reading and research on this topic before departure. Following completion of the Moscow portion of the course, the student will research and write a paper of 15 to 20 pages on that topic. The paper will be submitted six weeks after returning from Russia.

**Note:** HIS 321/RUS 212 is treated as if it was a January intersession course, except that it occurs at the end of the academic year. It is recommended that the student actually register for the course during the fall preregistration for Intersession and spring of the academic year.

**HIS331 - Old South**

A study of the American south from colonial times to the Civil War, course topics include the origins of the plantation economy, of racism, and of slavery; the nature of class and caste relations; political conflict within the south; sectional conflict within the nation; and the outbreak of the Civil War.

*Prerequisite: HIS 201 or 202, or permission of the instructor*

**HIS332 - The Civil War and its Aftermath, 1861-1900**

This course is a study of the political, social, and economic dimensions of the sectional crisis and its consequences.

*Prerequisite: HIS 202 or permission of the instructor*

**HIS333 - Constitutional History of the United States**

This course is a survey of the constitutional problems arising from the development of the United States, including constitutional origins during the colonial period.

**HIS334 - Jacksonian America**
This course is a study of social and political change from the Federalist Era to 1848.

Prerequisite: HIS 202 or permission of the instructor

HIS335 - The Gilded Age, 1870-1918

A study of American responses to the wealth, poverty, and new social problems created as part of industrial growth, course topics include labor, immigration, urbanization, bureaucratization, art, political culture, progressivism, and the anomalous position of the American.

Prerequisite: HIS 202 or 204, or permission of the instructor

HIS336 - Recent American History, 1919-Present

A seminar approach to an intensive study of American history from World War I to the present with emphasis on domestic and foreign affairs and their relationship to and effect on each other. This course may be repeated for credit if the topic of the course differs.

Prerequisite: HIS 204 or permission of the instructor

HIS340 - The Middle East

The chronological parameters of this course are from the end of the Ottoman Empire to the present. Special attention is given to the Kemalist national revolution in Turkey, the building of the Zionist state in Palestine, the creation of the state of Israel, the Egyptian revolution under Nasser, the Iranian Fundamentalist Revolution, and the Iran-Iraq and Persian Gulf wars.

HIS350 - Contemporary East Asia

This course will examine topics in the history of China, Korea, Japan, or Vietnam during the past century. This course may be repeated for credit if the topic of the course differs.

HIS352 - China Through Literature

This course will deepen understanding of Chinese society past and present through the examination of novels, short stories, and other forms of literature either written in or translated into English. For instance, students may explore the pleasures and tensions of eighteenth-century elite culture through Cao Zueqin's Dream of the Red Chamber, the perilous excitement of 1930s Shanghai through Mao Dun's Midnight, and the rhythms of contemporary urban society through Qui Xiaolong's Death of a Red Heroine. Emphasis is on the eighteenth century through the present.

Prerequisite: HIS 151, 255, or 350, or permission of instructor

HIS355 - Global Buddhism

This course is an examination of the philosophical and religious transformations of Buddhism as it was spread from India to other parts of the world. Particular emphasis is placed on early Buddhist beliefs and practices in India, and on later expressions in Tibet, China, Japan, and the contemporary United States.
**HIS410 - Special Topics in Historical Studies**

Intensive study and research of selected topics in history -- topics are varied according to availability to faculty and student interest. This course may be repeated for credit if the topic of the course differs.

*Prerequisite: Two previous history courses or permission of instructor*

**HIS500, 501 - Independent Study**

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

**Human Resource Management**

*Professor: Seltzer (psychology coordinator)*

*Associate Professor: Litchfield (business coordinator)*

The Human Resource Management Emphasis is open to majors in business administration or psychology who wish to prepare themselves for the study of human resource management in graduate school and/or pursue a career in human resource management.

To complete this program, a student must complete the following courses: PSY 101, 102, 225; one from 295, 303, or 392; and one from 235, 245, 324, or 330; ECN 101; ACC 211; and BUS 301, 319, and 350. It is also strongly recommended that the student complete an internship in an industrial/organizational setting.

Students interested in this program are advised to contact the chair of either the Economics and Business department or the Psychology department.

**Interdisciplinary Courses**

W&J faculty occasionally collaborate across disciplinary lines to offer interdisciplinary courses. Recent examples include SCI 100: Introduction to Science and SCI 150: Topics in Science.

**SCI100 - Introduction to Science**

This team-taught, topic-based course introduces students to the study of science in a relevant area such as nutrition, forensics, oceanography, environmental science, disease, or artistic perception. The course will provide an interdisciplinary approach for students majoring in fields other than the sciences. The laboratory component is designed to introduce students to the scientific method as applied to the topic of interest.

**SCI150 - Topics in Science**

The topics for this course will vary for each offering. Courses that fit this designation will have either a general science focus that does not fit into a particular discipline or will have an interdisciplinary focus that crosses disciplinary boundaries.

**International Business**
Professor: West (business coordinator)

Associate Professor: C. Shaughnessy (languages coordinator)

The international business major is intended to prepare students for an active role in today's world of international commerce. It combines the strengths of the Department of Economics and Business with those of the Department of Modern Languages to prepare students who will be capable of making significant contributions in the area of international business.

Coursework is combined with study abroad and/or an international internship to ensure that students will be able to participate to the fullest in the global economy of the future.

**MAJOR REQUIREMENTS:** ECN 101, 102; ACC 211; BUS 300 (or 302), 301 and 307; MTH 225; one modern foreign language through 310; FRN (GER, SPN) 371; a term of study abroad or an international internship in an area where the target foreign language is the primary language spoken; and two of the following: BUS 451, 453, 457, and ECN 305. A student who completes both a term study abroad and an international internship can count the internship as one of the two required business electives.

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**International Studies**

Professors: Dodge, Gai (director)

Associate Professors: Misawa

**Affiliated Faculty:**

Professors: Gormly, Greb, Krol, Maloney, Vande Kappelle

Associate Professors: Caffrey, East, H.J. Manzari, Mulvania, Pflanze, C. Shaughnessy, M. Shaughnessy, Swift, Taylor, Ternes

The International Studies Program offers an interdisciplinary major aimed at providing a global context for a liberal arts education. It is intended to expose students to a broad range of international issues through multidisciplinary course offerings from the arts, humanities, and social sciences. It also offers students the opportunity to study in relative depth one geographical area of the world through an area study, language study, and study abroad. The goal of the International Studies Program is to help students become informed and productive citizens in an increasingly interconnected world. Students who successfully complete the International Studies Major will have an understanding of world events from multiple perspectives and the ability to analyze critically a narrowly defined topic of international interest from theoretical as well as experiential points of view. They will have an appreciation for the values and perspectives expressed by at least one culture different from their own. They will be able to communicate in culturally appropriate ways and in a language other than English with members of at least one society in their area of concentration.

**MAJOR REQUIREMENTS:** The International Studies Major requires a minimum of eleven courses representing at least four different departments. At least four of the eleven courses must be at the 300 level or above. All majors are required to complete a minimum of one semester of study abroad as well as the capstone experience. Other courses not listed below may also satisfy a major requirement when approved by the program. The professor who teaches such a course should petition the IST program for approval prior to the course being taught

- Three required courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ECN 102</td>
<td>Principles of Macroeconomics</td>
</tr>
<tr>
<td>POL 120</td>
<td>World Politics</td>
</tr>
<tr>
<td>SOC 261</td>
<td>World Societies</td>
</tr>
</tbody>
</table>

- Three elective courses:

  *Take two from the following list:*

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>EVS 315</td>
<td>International Environmental Policy</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>HIS 215</td>
<td>United States Diplomatic History from 1898 to the Present</td>
</tr>
<tr>
<td>POL 220</td>
<td>U.S. Foreign Policy</td>
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<tr>
<td>POL 320</td>
<td>International Politics</td>
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<tr>
<td>POL 321</td>
<td>International Law</td>
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<tr>
<td>POL 322</td>
<td>International Political Economy</td>
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<tr>
<td>POL 331</td>
<td>Politics of Developing Countries</td>
</tr>
<tr>
<td>REL 204</td>
<td>World Religions (Non-Christian)</td>
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</table>

*Take one from the following list:*

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ARH 102</td>
<td>World Art II</td>
</tr>
<tr>
<td>ENG 260</td>
<td>World Literature</td>
</tr>
<tr>
<td>HIS 274</td>
<td>World Environmental History</td>
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<tr>
<td>HIS 355</td>
<td>Global Buddhism</td>
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<tr>
<td>MUS 141</td>
<td>Music of the World</td>
</tr>
</tbody>
</table>

*• Three courses in one of the following four areas:*

(One of the three must be a regionally focused course as indicated by the R designation. R courses are either a comparative study of two or more countries of the area or a study of the area as a whole.)

**Africa and the Middle East**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ARA 257</td>
<td>Arabic Literature in Translation</td>
</tr>
<tr>
<td>FRN 420</td>
<td>Topics in Francophone Cultures</td>
</tr>
<tr>
<td>HIS 340</td>
<td>The Middle East (R)</td>
</tr>
<tr>
<td>MUS 341</td>
<td>Music of the African Diaspora and Modern Africa</td>
</tr>
<tr>
<td>POL 232</td>
<td>Politics of the Middle East (R)</td>
</tr>
<tr>
<td>POL 230</td>
<td>Politics of Africa (R)</td>
</tr>
<tr>
<td>REL 105</td>
<td>Introduction to Islam</td>
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**East Asia**
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>HIS 151</td>
<td>Asian Heritage (R)</td>
</tr>
<tr>
<td>HIS 250</td>
<td>History of Modern Japan</td>
</tr>
<tr>
<td>HIS 255</td>
<td>History of Modern China</td>
</tr>
<tr>
<td>HIS 350</td>
<td>Contemporary East Asia(R)</td>
</tr>
<tr>
<td>HIS 352</td>
<td>China through Literature</td>
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<tr>
<td>POL 231</td>
<td>Politics of China</td>
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<tr>
<td>POL 250</td>
<td>Special Topic: Political Economy of East Asia(R)</td>
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<tr>
<td>POL 350</td>
<td>Special Topic: East Asia in World Politics(R)</td>
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<tr>
<td>REL 206</td>
<td>Eastern Religious Traditions(R)</td>
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<tr>
<td>SOC 247</td>
<td>Special Topic: Japanese Society</td>
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**Europe**

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<tr>
<th>Course Code</th>
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<tr>
<td>ARH 352</td>
<td>19th Century Art</td>
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<td>ARH 355</td>
<td>20th Century Art</td>
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<tr>
<td>FRN 411</td>
<td>Cultural History of France</td>
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<tr>
<td>GER 235</td>
<td>Introduction to the German-Speaking World</td>
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<tr>
<td>GER 485</td>
<td>Cultural History of Germany</td>
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<td>GER 486</td>
<td>Topics in German Culture</td>
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<tr>
<td>HIS 228</td>
<td>19th-Century Europe(R)</td>
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<td>HIS 230</td>
<td>20th-Century Europe, 1919-1945(R)</td>
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<td>HIS 231</td>
<td>Post-World War II and Contemporary European History(R)</td>
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<tr>
<td>HIS 240</td>
<td>Russia, the Soviet Union, and the CIS</td>
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<td>HIS 304</td>
<td>History of Modern Eastern Europe(R)</td>
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<td>HIS 320</td>
<td>Modern European Diplomatic history(R)</td>
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<td>POL 330</td>
<td>Comparative Politics(R)</td>
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Latin America

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<td>HIS 261 Latin American History from Independence to the Present (R)</td>
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<td>POL 250</td>
<td>Mexico and the Caribbean</td>
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<td>SPN 420</td>
<td>Topics in Hispanic Culture</td>
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<td>SPN 421</td>
<td>Latin American Film</td>
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- Two foreign language courses at the intermediate level or above. Majors are urged to take at least one course in the language of their host country while they are abroad.

- All majors must spend a minimum of one semester, or the academic equivalent, on a study abroad program approved by the IST Director in line with the College study abroad guidelines. During study abroad students will take a full load of courses, as defined by the program director and the study abroad institution. A maximum of five full-course equivalents of the required major courses may be taken during a semester of study abroad and a maximum of 6 full-course equivalents of the required major courses may be taken during a full academic year of study abroad.

- Capstone Experience: The Capstone Experience can be an independent study, internship, or practicum. For the independent study option, the student should register for IST 500 or 501 and the study must involve original research of an interdisciplinary nature. For the internship option, the student may or may not register it as an internship course depending on the nature of the internship. For the practicum option, the student will participate in international studies related activities, such as Model EU and Model UN, without registering it as a course. All options for the Capstone Experience require an oral presentation for successful completion and the oral presentation should be completed during the same academic year as the Capstone Experience. Students should discuss their capstone options with their IST major advisors during their junior year. All capstone options need to be approved by the program director and the IST Steering Committee.

**IST247 - Topics in International Studies**

This course is a study of selected topics in international studies. Actual topic and prerequisites will be provided at the time of registration.

Prerequisite: Varies according to the topic

**IST347 - Advanced Topics in International Studies**

This course is a study of selected advanced topics in international studies. Actual topic and prerequisites will be provided at the time of registration.

Prerequisite: Varies according to the topic

**IST500, 501 - Independent Study**

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.
The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Prerequisites: Senior status and approval by the IST director

Japanese

Japan is ancient yet modern and traditional yet dynamic. It is America's most important ally in the Pacific and one of our largest trading partners. Begin studying Japanese and the culture opens up; become proficient in Japanese and opportunities become endless. Courses in the Japanese language are offered through the Department of Modern Languages.

PLACEMENT PROCEDURES: All students taking a language at W&J must take the student information questionnaire prior to enrollment in that language. Students with a background in this language must also complete the computerized adaptive placement exam (CAPE). Incoming freshmen will usually take the exam prior to registration during summer orientation, but the exam may be administered at any time. The results of the questionnaire and exam will usually determine the level at which a student will begin a course of study in the language. A student who falls at the high or low end of a scoring range may be placed higher or lower than the course indicated, depending on the number of years of language the student has had. Placement in these situations is done in consultation with a faculty member from the relevant program. Because of the varying requirements for completing a major or minor in language, it is to the student's advantage to begin at the highest level possible.

AP Policy: Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.

JPN105, 106 - Elementary Japanese I, II

An introduction for students with little or no knowledge of Japanese, this course provides beginning work in understanding and speaking the language with emphasis on communicative competence. Students also are introduced to writing with Japanese characters.

JPN 105 is offered in the fall term; JPN 106 in the spring term

Taught largely in Japanese

Prerequisite: JPN 105, or permission of the instructor, for JPN 106

JPN207, 208 - Intermediate Japanese I, II

Intended for students who have completed the first-year sequence or the equivalent, these courses will focus on speaking, listening, reading, and writing to negotiate daily living experiences, many of which reflect traditional Japanese culture. Students will utilize the Hiragana, Katakana, and Kanji systems of writing.

Taught largely in Japanese.

Prerequisites: JPN 106 for 207; JPN 207 for 208

Mathematics

Professors: Woltermann, Wong, Zimmerman

Associate Professors: Kline (chair)

Assistant Professors: Doherty, Higginbottom

Instructors: Harding, Jones

For students who select mathematics as a major or minor, the mission of the Department of Mathematics is to provide a program of study that is sufficiently strong and deep to enable them to pursue either graduate study in mathematics and/or professional careers in education, business, actuarial science, and other related fields.

The mathematics department is also committed to providing a variety of service-oriented courses that support programs in the
physical, biological, social, and informational sciences that broadly introduce students to fundamental concepts in computation, statistics, and applied calculus so as to foster creative problem solving and quantitative literacy.

For the liberal arts student, the mathematics program is designed to offer a course selection that introduces topics that are relevant in the contemporary world. Finally, for students pursuing a career in education, the mathematics curriculum supports the NCTM (National Council of Teachers of Mathematics) standards and meets the Commonwealth of Pennsylvania's requirements for teaching certification.

**MAJOR REQUIREMENTS**: MTH 151, 152, 208, 211, 217, 320 (1/2 course), 420 (1/2 course), at least three additional courses numbered above 300, and either MTH 412 or MTH 415. Substitutions at the upper level may be made only with department approval. Depending on the student's vocational interests, CIS 102 and PHY 107 and 108 are recommended, but not required, courses.

**MINOR REQUIREMENTS**: At least six mathematics courses that count toward the major. MTH 225 may be counted as one of these six courses.

**PLACEMENT PROCEDURES**: The department uses a placement exam to determine the appropriate course point of entry for mathematics. The process is designed to evaluate student readiness for various levels of mathematics. Based on the placement score, students may begin a track at the appropriate entry point. AP calculus credits and other external course work are evaluated and may be transferred. Advising is available to ensure a smooth transition to W&J mathematics.

**AP Policy**: Students with AP Calculus score of 4 or 5 may transfer credit in for MTH 151. Students with a score of 4 may elect not to transfer AP credit and in favor of repeating Calculus I by enrolling in MTH 151. However, such students may not transfer AP Calculus in for ELE 100 and then repeat MTH 151. Students with AP Calculus credit will not receive NSM breadth of study credit but will receive Q credit. Students with AP Calculus score below 4 will not get credit for ELE 100 nor MTH 111. Students with AP Calculus score 5 on the BC test may get credit for MTH 152 with Q credit but not NSM. Students who receive AP credit for MTH 151 may not take MTH 131. Students may elect not to transfer BC credit for Calculus II and repeat the material by enrolling in MTH 152. If AP credit is given for BC then student may proceed to MTH 208. Students with an AP Statistics score of 4 or 5 will receive credit for MTH 225.

**CAPSTONE EXPERIENCE**: The half-courses MTH 320: Junior MathTalk and MTH 420: Senior MathTalk together with the Mathematics Field Test constitute the capstone experience for mathematics majors. In each of the courses, students are required to investigate a problem or topic in mathematics, read and understand mathematical exposition, write a report about their investigation, and give an oral presentation of their results to a professional audience that is composed of faculty and student peers. Although a faculty member supervises the MathTalks program, students are expected to demonstrate an appropriate level of initiative, independence, and mathematical maturity.

**3-2 ENGINEERING PROGRAM**: Students in the 3-2 engineering program may major in mathematics by completing seven Washington & Jefferson College mathematics courses that are required for the major and transferring back appropriately selected courses to satisfy the remaining math major requirements. See the engineering section of the catalog for more information on the program.

**TECHNOLOGY REQUIREMENTS**: Many of the introductory courses in calculus and statistics may require a Texas Instruments TI-83 or TI-84 Graphing Calculator.

**PREPARATION FOR ACTUARIAL EXAMS**: Students preparing for the actuarial exams should complete MTH 225, 151, 152, 208, 217, 305, and BUS 315.

**MATHEMATICS HONORARY**: The national mathematics honorary Pi Mu Epsilon established a chapter at W&J in 2011. The purpose of Pi Mu Epsilon is to promote scholarly activity in mathematics among the students in academic institutions.

**TEACHER CERTIFICATION**: Students may seek Secondary Education (grades 7-12) Certification in Mathematics by completing the Mathematics major including MTH 301, 412, and one course from MTH 225 or 305, and the Education minor consisting of those courses required for Secondary Education (grades 7-12) Certification.

Students may seek Upper Elementary Education Certification (4--8) in Mathematics in one of two ways:

Option 1: Complete the Child Development and Education major and the Mathematics minor as described below.

Option 2: Complete the Mathematics major, and the Education minor consisting of those courses required for Upper Elementary Education (grades 4-8) Certification.

Students electing Option 1 and seeking Upper Elementary Education Certification (4--8) in Mathematics must complete a special minor composed of the following courses: MTH 151, MTH 225 and one of two tracks: Track A: MTH 115, MTH 123, MTH 124, and one of MTH 211 or MTH 217; Track B: MTH 152, MTH 208, MTH 211, and MTH 217.

Before being formally admitted to either program, students must satisfy-by the end of the sophomore year-the Certification
MTH101 - Introduction to Functions

This course is designed to refresh students on many of the basic mathematical skills required in precalculus, calculus for the business sciences, and other quantitative skill courses. Topics include functions, linear equations, systems, polynomials, rational expressions, and quadratic, exponential, and logarithmic functions. This course is restricted to students whose placement score is under 12.

Prerequisite: Freshman or sophomore status; not available to seniors. Course not available to students with MTH 111 credit.

MTH111 - Precalculus Mathematics

For students who intend to take MTH 151 and need additional preparation. Aspects of algebra, trigonometry, and analytic geometry needed in the study of calculus are studied.

Offered fall and spring terms

Prerequisite: Placement exam score

MTH115 - Mathematics in Our World

This course introduces the liberal arts student to mathematics as a useful and inherently interesting subject. The topics will vary from instructor to instructor, but significant mathematics will be presented for an entry-level audience in the spirit of the liberal arts tradition. Topics might include consumer mathematics, recreational mathematics, number theory, geometry, modeling with spreadsheets, and other assorted mathematical excursions.

Enrollment is limited to freshmen and sophomores.

MTH123 - Nature of Mathematics-Number Systems

This course will introduce students to mathematical reasoning and strategies for problem solving. These will be applied to the study of sets and logic and understanding the basic operations of number systems. The course will also introduce students to the concepts of functions, patterns, and basic number theory.

This course is not available for freshmen or seniors.

Offered fall term only

Required for child development and education majors.

MTH124 - Nature of Mathematics-Statistics and Geometry

This course will introduce students to mathematical reasoning and strategies for problem solving. These will be applied to the basic concepts of counting, probability, statistical data analysis, geometrical shapes, and congruence and similarity.

This course is not available for freshmen or seniors

Offered spring term only

Required for child development and education majors

MTH131 - Calculus for the Business Sciences

This course covers functions, limits, continuity, and the processes of differentiation and integration with an emphasis on practical applications. Additional topics include the calculus of logarithmic and exponential functions and an introduction to multivariable calculus. Students who have successfully completed MTH 151 or its equivalent will not be given credit for this course. This
course is not available to freshmen with AP calculus credit. This course does not count towards a major or minor in mathematics. This is the same course as BUS 131.

Business majors must take this course at W&J.

Offered fall and spring terms

Prerequisite: Freshmen must have a placement score of at least 15; no prerequisite for non-freshmen; course not available to students with MTH 151 or 152 credit.

MTH151 - Calculus I

An introduction to the basic concepts of calculus including limits, differentiation, and integration. In particular, the course covers the basic theorems of calculus, the mean value theorem, and the fundamental theorem of calculus. Application topics contain related rates, optimization, area between curves, and volumes of solids of revolution.

Offered fall and spring terms

Prerequisite: Placement exam score 19-30 or successful completion of MTH 111

Course not available to students with MTH 131 credit or AP credit for part AB with a score of 4 or 5.

MTH152 - Calculus II

A continuation of Calculus I that features exponential, logarithmic, and inverse trigonometric functions; additional methods of integration; and the calculus of parametric and polar forms. The course also provides an introduction to sequences, series, Taylor series, power series representation of functions, tests for convergence, and various applications. The department recommends a grade of C- or better in MTH 151 before entering MTH 152. Credit for MTH 152 may be given with a score of 5 on the BC subgrade of the AP test.

Offered fall and spring terms

Prerequisite: MTH 151 or AP score of 4 or 5 on AB subgrade or permission of the Mathematics Department.

MTH208 - Multivariable Calculus

This course explores the calculus of multivariable functions. The course begins with topics such as vectors, quadric surfaces, cylindrical and spherical coordinate systems, vector functions, space curves, and arc length and curvature. Topics in partial derivatives include limits, continuity, tangent planes, chain rule, gradient, extreme values of functions, and Lagrange multipliers. Topics in multiple integrals include iterated integrals, double/triple integrals, change of variables, and applications. The course concludes with an introduction to vector fields, line integrals, and Green's theorem.

Offered fall and spring terms, or on demand

Prerequisite: MTH 152

MTH211 - Foundations of Higher Mathematics

An introduction to the foundational concepts of higher mathematics including a historical perspective of their development. Topics will include basic logic, the algebra of sets, mathematical induction, relations, orderings, functions, the real and complex number systems, and an introduction to a particular algebraic or topological structure.

Offered fall term only

Prerequisite: MTH 152
MTH217- Linear Algebra

Fundamental properties and applications of matrices and linear transformations, including systems of equations, vector spaces, determinants, and characteristic values.

*Offered spring term only*

*Prerequisite: MTH 152*

MTH225 - Probability and Statistics

An introduction to probability and statistics for students in the physical, biological, and social sciences. Topics include discrete and continuous probability distributions, sampling theory, tests of hypotheses, point and interval estimation, correlation, and linear regression. Business majors must take this course at W&J.

*Offered fall and spring terms*

*Prerequisite: Placement exam score for freshmen in the fall 19-30 and in the spring 15-30; no prerequisite for sophomores, juniors and seniors.*

*Technology: A Texas Instruments Model 83 or 84 graphing calculator is required.*

MTH245 - Applied Statistics for the Life Sciences

An introduction to statistics and experimental design as used in the life sciences. Emphasis will be placed on the practical use of statistical tests. The course covers testing of hypotheses and parametric and non-parametric methods as well as two sample tests and complex ANOVA designs. Course focuses on when, why, where, and how to use statistics. Data will be analyzed using software and results will be interpreted and formally presented. This is the same course as BIO 245.

*Offered: Spring Term*

*Three Hours Lecture*

*Course is not available to students who have taken MTH 225.*

*Prerequisite: BIO 101 or 102, or permission of the instructor*

MTH301 - Geometry and History of Mathematics

This course examines the foundations of geometry, starting with neutral geometry and proceeding to the classical results in Euclidean geometry about triangles and circles. These include the theorems of Menelaus and Ceva, constructions, and the classification of plane isometries. Axioms for other geometries, such as hyperbolic or spherical are introduced, and these geometries are compared and contrasted with Euclidean geometry. This course also examines historical aspects of mathematics through readings and presentations on various topics.

*Offered fall term of even-numbered years*

*Prerequisite: MTH 152*

MTH305 - Mathematical Statistics

An introduction to classical probability theory that includes the axioms of a probability measure, conditional probability, and Bayes’ Theorem; random variables and their probability distributions; moments and moment generating functions; distributions of special random variables such as binomial, Poisson, Chi square, and normal; sampling distributions such as the t and F distributions. Interval estimation and hypothesis testing also are discussed.

*Offered spring term of odd-numbered years*
MTH308 - Differential Equations

Emphasis is on techniques for solving ordinary differential equations and on applications to the physical sciences. Possible additional topics are systems of equations, Laplace transforms, and an introduction to partial differential equations.

Offered spring term of even-numbered years

Prerequisite: MTH 152

MTH311 - Introduction to Number Theory

An introduction to classical number theory including topics such as prime numbers, unique factorization, congruences, Fermat's, Wilson's and Euler's theorems, perfect numbers, primitive roots, quadratic congruences, the law of quadratic reciprocity, Fermat's conjecture, and the Fermat-Pell equation. The course involves problem solving, writing proofs and student-projects on various topics in number theory.

Prerequisite: MTH 152

MTH317 - Complex Variables

An introduction to the theory and applications of complex variables. Topics include analytic functions, complex integration, and Cauchy's Theorem, Taylor and Laurent series, residues, conformal mapping, harmonic functions, and Laplace transforms. Applications will be made to problems in science and engineering such as fluid and heat flow, dynamical systems, and electrostatics.

Prerequisite: MTH 208

MTH320 - Junior MathTalk

(1/2 Course, Unbilled)

In this course each student will investigate a mathematical problem or topic (appropriate for junior-level students of mathematics) under the supervision of a member of the mathematics faculty. The student will present the results of this investigation in a written report (using appropriate mathematics software) and an oral presentation to students and faculty. The report and oral presentation will be evaluated by all full-time mathematics faculty members to determine the student's grade in the course. Students will receive instruction in report writing and oral presentation.

Offered fall and spring terms

Prerequisite: MTH 211 and MTH 217 (recommended) or Permission of the Mathematics Department.

MTH330 - Intro to Graph Theory

An introduction to the mathematical theory of graphs; a few applications and algorithms will be discussed, and proof writing is expected. Topics include trees, spanning trees, connectivity, Eulerian and Hamiltonian graphs, vertex colorings, independent sets and cliques, and directed graphs.

Prerequisites: MTH 211

MTH361 - Discrete Mathematical Structures
An introduction to combinatorics. Topics include binomial coefficients, generating functions, partitions, multinomial coefficients, Stirling numbers, Catalan numbers, the pigeonhole principle, the inclusion/exclusion principle, permutations, and Polya’s counting theorem.

Prerequisite: MTH 152

**MTH390 - Topics in Mathematics**

Contents may vary depending on the needs and interests of students and faculty. Possible topics may include applied statistics, actuarial mathematics, bio-mathematics, dynamical systems, metric spaces, cryptography, and history.

Prerequisite: MTH 152 plus permission of the Department of Mathematics

**MTH404 - Topology**

This course involves the study of certain geometric shapes (called topological spaces) and functions between them. The notions of a continuous function and equivalent spaces are studied in depth as well as topological properties such as connectedness, compactness, and the Hausdorff condition. The following topics may also be covered: product and quotient spaces, the separation axioms, and metric spaces. This course will use an axiomatic approach and requires a degree of comfort with abstraction and proofs. The student should be prepared for substantial writing outside of class.

Prerequisites: MTH 208, MTH 211, MTH 217

**MTH412 - Algebraic Structures**

An introduction to the study of abstract algebraic structures including groups, rings, and fields. In particular, topics will include subgroups, cyclic groups, groups of permutations, the fundamental theorem of Abelian groups, homomorphisms, factor groups, rings, fields, integral domains, Fermat's and Euler's theorems, rings of polynomials, ideals, and ring homomorphisms, and the basic concepts of graph theory. The course also emphasizes the writing of proofs and logically explained problem solutions.

Offered fall term of odd-numbered years

Prerequisites: MTH 208, 211 and 217

**MTH415 - Real Analysis**

This course provides a rigorous treatment of the calculus concepts of limits, continuity, sequences, differentiation, and integration (including double integrals). It includes the axioms for the real number system, basic topological properties of Rn, basic concepts of metric spaces, and proofs of the classical theorems of calculus.

Offered fall term of even-numbered years

Prerequisites: MTH 208, 211 and 217

**MTH420 - Senior MathTalk**

(1/2 Course, Unbilled)

In this course each student will investigate a mathematical problem or topic (appropriate for senior-level students of mathematics) under the supervision of a member of the mathematics faculty. The student will present the results of this investigation in a written report (using appropriate mathematics software) and an oral presentation to students and faculty. The report and oral presentation will be evaluated by all full-time mathematics faculty members to determine the student's grade in the course. Students will receive instruction in report writing and oral presentation.

Offered fall and spring terms

Prerequisite: Permission of the Mathematics Department

**MTH490 - Topics in Mathematics**
The topics and content of this course vary according to the needs and interests of students and faculty. Course content and materials are selected to meet 400 senior-class level expectations. Possible topics include Modern Algebra II, Real Analysis II, Topology II, Advanced Graph Theory, and other pre-graduate level preparatory courses.

Prerequisite: Permission of the Mathematics Department

MTH500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Mind, Brain, and Behavior

Professors: Wolf (program director)

Associate Professors: Bayline, S. Fee, Holland-Minkley, Klitz

The Mind, Brain, and Behavior Program has been developed in accord with Washington & Jefferson's college-wide initiative for innovative academic programs that are organized around common issues rather than traditional disciplines. In this spirit, the Mind, Brain, and Behavior Program is designed to offer a multidisciplinary framework for students interested in the mechanisms underlying behavior. This program builds on W&J's strengths in biology, philosophy, and psychology. It also complements the development of new programs in neuroscience and information technology.

The overall mission of the program is to utilize insights gained from interdisciplinary discourse to improve human self-understanding, to educate students in new methods designed to investigate human experience, and to foster collaborative scholarship that would not be possible within traditional disciplines.

Students in the program will have the advantage of gaining an interdisciplinary perspective on their area of interest before pursuing more specialized study after graduation. Appropriate professional and academic fields for students graduating from the Mind, Brain, and Behavior Program include medicine, law, speech and hearing, education, biology (neuroscience), philosophy, cognitive science, and psychology.

Students will also develop skills as critical thinkers and problem solvers, and will learn to present themselves clearly through academic writing while considering broader theoretical implications. Mind, brain, and behavior students also will be encouraged to conduct empirical research and to present their findings as a poster or paper at an internal or regional undergraduate conference. They will have the opportunity to study with faculty in a variety of disciplines who have a strong interest in the mind-brain system. Among the specific scholarly interests of mind, brain, and behavior faculty are applied behavior analysis, biofeedback, computational modeling of cognitive processes, developmental neurobiology of motor control, development of visual perception and cognition in human infants, evolutionary psychology, human learning, perceptual and cognitive processes in reading, philosophy of mind and language, and psychology and the law.

Students will begin the program with an integrative introductory course, and then concentrate in one of three specialty tracks in psychology, biology, or philosophy. Students will also take two courses in each of the other two tracks. The program will conclude with a capstone project in the student's specialty track. For those majoring in biology, psychology, or philosophy, the program requires five courses beyond the major.

SPECIALTY TRACKS

Psychology: PSY 101; 102; 215; 225, 285, 311, or 265; 406, 485, 425, or 475 (capstone)

Biology: BIO 101, 102, 206, 235, 435 (capstone)

Philosophy: PHL 123, 222, 242, 450 (capstone)
MBB200 - Human Nature and Literature

This team-taught course uses literature and science to explore specific aspects of the human experience. Emphasis will be on how concepts of the individual have evolved since the early 20th century. Course content will vary from offering to offering. Future topics may include: The Individual and Totalitarian Society; The Making of Human Intelligence; and The Individual and Reproductive/Gender Roles.

Music

Professors: Woodard

Associate Professors: Medley, Swift (chair)

Assistant Professor: Simpson

Music courses are open to all students, most without prerequisites. The department offers a variety of enrichment courses valuable to a general education as well as a strong program in theory, history, world music, and performance leading to a music major or minor.

MAJOR REQUIREMENTS: A minimum of 11 courses in music, including MUS 201 and 202; MUS 205 and 206; and MUS 306; at least one other course at the 200 level; one course from those numbered 300 to 310; 341 or 361; MUS 401 with successful presentation of the senior music project; four semesters of the same W&J ensemble; and four semesters of applied study in a single area (voice or instrumental).

MINOR REQUIREMENTS: MUS 201 or 202; MUS 205; four semesters of the same W&J ensemble or four semesters of applied study in a single area (voice or instrumental); three courses from the department's offerings numbered 221 and above; and successful completion of the senior music project, which must be proposed and accepted in the student's penultimate semester. Projects may include senior recitals, papers, and other forms of presentation approved by the music faculty. Students considering a Minor must communicate at least once each term with the Department Chair. Minors are also strongly advised to designate a Music Department faculty member as a secondary advisor of record with the Registrar.

NOTE: MUS 103, 141, and 204 do not count toward the minor or major in music.

AP Policy: Students scoring 4 or 5 on the Music Theory AP exam receive credit for MUS-204. A Music Aural or Non-Aural Subscore as low as 3 is acceptable for MUS-204 as long as the overall Music Theory exam score is a 4 or 5.

PERFORMANCE (APPLIED) STUDIES: The music department offers a number of courses in music performance areas known as applied studies. These courses are denoted by the prefix MUA and, as partial courses, yield partial credit. Applied studies in music may be taken more than once, with ongoing participation in the College ensembles strongly encouraged. For private instruction in instrumental or vocal music, students should register for the appropriate applied studies course and see the instructor to schedule a one-hour weekly lesson. For private instruction, there is a per-term applied lesson fee.

MUA101 - Choir

(1/4 Course)

Participation in W&J Choir offers training in vocal and ensemble techniques, sight-reading, and a wide-ranging repertory. Along with regularly-scheduled concert performances, the W&J Choir also sings at important College functions and at various community events. All students are welcome to participate with consent of the director, who will determine voice placement.

MUA111 - Wind Ensemble

(1/4 Course)

The W&J Wind Ensemble performs the standard band literature as well as the more specialized repertoire utilizing the concept of one player per part. Performing each semester at the Olin Fine Arts Center, the ensemble also plays for community events and tours on occasion. Students registering in the Wind Ensemble must have prior experience playing a reed, brass, or percussion instrument, and read music fluently. The director determines seating placement according to instrumental ability.

MUA121 - Applied Piano
Private Instruction Courses
Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA122 - Applied Organ
(1/2 Course)

MUA131 - Applied Voice
(1/2 Course)

MUA141 - Applied Saxophone
(1/2 Course)

MUA142 - Applied Flute
(1/2 Course)

MUA143 - Applied Clarinet
(1/2 Course)

MUA144 - Applied Oboe
(1/2 Course)
Private Instruction Courses
Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA145 - Applied Bassoon
(1/2 Course)

Private Instruction Courses
Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA151 - Applied Trumpet
(1/2 Course)

Private Instruction Courses
Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA152 - Applied Trombone
(1/2 Course)

Private Instruction Courses
Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA153 - Applied Euphonium/Tuba
(1/2 Course)

Private Instruction Courses
Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA154 - Applied French Horn
(1/2 Course)

Private Instruction Courses
Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA161 - Applied Violin
(1/2 Course)
Private Instruction Courses
Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA162 - Applied Viola
(1/2 Course)

Private Instruction Courses
Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA163 - Applied Cello
(1/2 Course)

Private Instruction Courses
Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA164 - Applied String Bass
(1/2 Course)

Private Instruction Courses
Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA165 - Applied Guitar
(1/2 Course)

Private Instruction Courses
Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA166 - Applied Electric Bass
(1/2 Course)

Private Instruction Courses
Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA171 - Applied Concert Percussion
(1/2 Course)

Private Instruction Courses
Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

**MUA172 - Applied Drum Set**

(1/2 Course)

Private Instruction Courses
Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

**MUA173 - Applied Comprehensive Percussion**

(1/2 Course)

Private Instruction Courses
Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

**MUA201 - Camerata Singers**

(1/4 Course)

A small, select vocal ensemble, the Camerata Singers perform a wide variety of music ranging from madrigals to jazz and popular styles. Seeking mastery of a fine body of repertory in a stylistic manner, W&J's Camerata performs frequently, both on and off campus. The director determines eligibility and placement.

**MUA211 - Jazz Ensemble**

(1/4 Course)

An ensemble of 18 members that performs standard works from the jazz repertoire in addition to new works written by today's most innovative composers, the W&J Jazz Ensemble rehearses twice weekly with occasional supplementary sectional rehearsals. The instrumentation includes five saxophones, four trombones, five trumpets, bass, drums, guitar, and piano. The group makes at least one concert appearance each semester, performs in the community and also hosts master classes by leading visiting jazz performers. The director determines seating.

**MUA 221 - Chamber Music Ensemble**

(1/4 Course)

Available by consent of the music faculty to all instrumentalists (including piano and strings) interested in forming duos, trios, and other chamber ensembles to learn the traditional and contemporary literature, as well as to singers interested in the art song repertory. Special attention is given to ensemble techniques and stylistic concerns of the selected repertory. A presentation of the music studied is required to receive credit.

*Chamber ensembles seeking coaching by outside specialists may incur private coaching fees. Contact music faculty for details.*

**MUS103 - Introduction to Music Listening**

Open to all students without prerequisite. A course designed to acquaint students with basic listening skills as well as relationships among the major stylistic periods in Western and non-Western music. The goal of this course is to expand the student's musical perception through a variety of listening approaches, assigned readings, lectures, live performance attendance, and discussions. Emphasis is on the distinguishing characteristics of music from various eras and composers.
MUS141 - Music of the World

Open to all students without prerequisite. This course focuses on a collection of diverse music-cultures from around the globe, addressing art, folk, and popular music styles. Using directed listening and guided, hands-on experiences, students will develop the intellectual tools needed for grasping what it means to make music in a different culture. Because music in non-Western contexts is not an isolated discipline, related cultural ideas such as belief systems, modes of communication and transmission, and musical instrument design are also important to the study.

MUS201, 202 - History of Western Music

MUS 201 Antiquity through the Baroque

MUS 202 Age of Enlightenment into Twenty-First Century

Open to all students without prerequisite. This course is a survey of the musical heritage of Western civilization. Selected major musical works will be examined from a variety of historically oriented standpoints, including their cultural milieu, their main stylistic aspects, and performance practice.

MUS204 - Music Theory Fundamentals

Open to all students without prerequisite. This course is an introduction to the basic materials of music -- the development of skills in rhythmic and melodic notation, scales, and elementary harmony. Presented in both traditional and computer-assisted styles, the course seeks to develop critical listening and music reading/writing skills.

MUS205, 206 - Music Theory I, II

Music Theory I focuses on the musical style of the common-practice period. Students will analyze scores from this repertoire with respect to harmony, melody, rhythm, growth, and other musical characteristics. Students will compose examples illustrating stylistic characteristics, including harmony, voice leading, and counterpoint. Through sight singing and dictation, students will also develop aural skills. Music Theory II continues to build skills of analysis and composition. Scores from a wider scope of music history will be analyzed, exposing students to a variety of harmonic and formal techniques. Composition assignments will allow students to apply new techniques observed in analysis. Students also will continue to develop aural skills through more advanced sight singing and dictation. Both MUS 205 and 206 are presented in traditional and computer-assisted styles.

Three hours lecture, one hour lab

Prerequisites: MUS 204 or placement exam; 205 is prerequisite to 206

MUS231 - Beethoven

Open to all students without prerequisite. An exploration of the composer’s life, work, and in-depth study of representative music from each of his creative periods, current theories and analyses of Beethoven's compositional technique are considered alongside the traditional investigations, enabling students to compare various interpretations by scholars and performing musicians. Exposure to a wide range of critical inquiry, live performances, and guest lectures enrich this course.

MUS241 - Global Music Regional Survey

Open to all students without prerequisite. This course mirrors MUS 141, but with a closer focus on a particular region of the globe (Asia; Europe and the Middle East; Africa and South America; or Pacific Rim and North America). It addresses “classical,” folk,
and popular music styles, as appropriate to the culture. Using directed listening and guided, hands-on experiences, students will develop the intellectual tools needed for grasping what it means to make music in a different culture. Because music in non-Western contexts is not an isolated discipline, related cultural ideas such as belief systems, modes of communication and transmission, and musical instrument design are also important to the study.

**MUS245 - Music and the Natural Environment**

This course examines musical models of the environment by focusing on programmatic music, i.e. music that has specific associations beyond its inherent musical design. In order to understand how different cultures musically interpret their environments, we must consider both Western and non-Western perspectives. Characteristic of such a study is an examination of how humans relate to the environment emotionally and spiritually, not just physically and quantitatively. Student work will focus on learning how to hear environmental messages in music and practicing the communication of these skills orally.

*Offered spring term in odd-numbered years*

**MUS251 - Jazz History**

Open to all students without prerequisite. Through readings and extensive listening, this course will focus on the leading personalities of jazz from the early twentieth century to the present. The evolution of major stylistic trends will be examined, as well as social, political, and economic influences.

**MUS255, 256 - Topics in Music**

Open to all students without prerequisite. This course is an in-depth study of a subject chosen from topics varying from year to year. Among those topics courses offered recently are vocal masterpieces; Romeo and Juliet in Words and Music, The Art of Conducting, The Art of Accompanying, Asian music, Venice, Vivaldi and The Four Seasons, A Pilgrimage to Beethoven's Ninth Symphony, Film Music and Women in Music. Current topics in music will be published in the preregistration bulletin.

**MUS261 - American Music**

Open to all students without prerequisite. This course is an historical and stylistic examination of a variety of vernacular and art music reflecting American culture. Such forms as folk and popular songs and dances, jazz and concert music, America's diverse sacred styles, opera, and musicals will be considered.

**MUS270 - The Art of Conducting**

This course introduces the basics of conducting, a skill with many practical applications. Through hands-on participation, students will learn baton technique, beat patterns, expressive gestures, and the ways in which interpretive elements may be communicated to an ensemble. Each class will become a supportive lab/rehearsal where students learn to conduct effective rehearsals by employing meaningful gestures, score study and rehearsal preparation skills. Using both recorded and live-performance media, students will be exposed to the conducting challenges of standard instrumental and vocal repertoire. Student presentations, individual and group coaching, and offsite rehearsal observation figure prominently in class activities. Students must be able to read music to take this course.

*Prerequisite: Student must be able to read music*

**MUS300 - Music Since 1900**

This course traces the creative development of musical ideas during the twentieth century. Derivations from the visual arts, theatre, dance, and multicultural sources are examined, as is the eclecticism of influences in the modern world. Beginning with the impressionists in France, the course surveys primary personalities and stylistic paths in Europe, Russia, England, Latin America, and the United States.

*Offered spring term in even-numbered years*
Prerequisite: One of MUS 103, 201, 202, 205, 206, 241, 261, or permission of the instructor

MUS306 - Music Theory III

Music Theory III continues to build skills of analysis, composition, and ear training. Scores from the eighteenth and nineteenth centuries will be analyzed and used as models for original composition, exposing students to a wider spectrum of harmonies and formal structures. Students will continue to develop aural skills through sight singing, chord identification, and multi-voice dictation exercises.

Prerequisite: MUS 205 and 206

MUS309 - Nineteenth-Century Romantic Music

A study of that music of the nineteenth century giving voice to the Romantic Movement, this course examines music in its respective circles of men and women who compose, perform, write about and influence its creation. Selected genres are studied, focusing on short lyric forms, programmatic and absolute music, including symphonies, piano sonatas, chamber music, art songs and opera. The relationship of the musicians to their culture and connections with other arts of the period will be considered. Live performances will enrich lectures, class discussions and writing projects.

Prerequisite: One of MUS 103, 201, 202, 205, 206, 241, 261, or permission of the instructor

MUS310 - Writing About Music

A discussion-based course that explores the relationship between words and music, and examines the challenges to insightful, effective writing in the arts. Class sessions are devoted to reading selections and identifying observational perspective, vocabulary development, music research methods and peer-reviewing. Writing forms emphasized include press releases, critical reviews, program notes, essays, research papers and annotated bibliographies. Drafting, editing, and revising are guided by the instructor, along with preparing work for publication and presentations for an audience beyond the classroom. Typically, a guest music critic visits campus and speaks with students. MUS 310 is part of W&J's Professional Writing Program.

Prerequisite: One of MUS 103, 201, 202, 205, 206, 241, 261, or permission of the instructor

MUS341 - Music of the African Diaspora and Modern Africa

People of African descent have enriched nearly every kind of music one encounters in the Western hemisphere. This course will look at modern manifestations of African music (juju, highlife, afrobeat) and African-derived music in the Caribbean and Americas (vodou, samba, reggae, calypso). The course also will acquaint students with the methods of inquiry of ethnomusicology, integrating the study of history, culture, and society with the study of music.

Typically offered in Fall Term.

Prerequisite: One of MUS 103, 201, 202, 205, 206, 241, 261, or permission of the instructor

MUS361 - Micromusics of America-Urban and Regional Styles

Confounding any efforts to describe a distinctly "American" style of music is the incredible diversity of urban, ethnic, and regional styles found in this country. This course will look at America not as a "melting pot" but as a "stew," in which indigenous music from around the globe are preserved, but with localized variants and innovations. Students will learn to identify and accurately describe these styles of music and performance practice. A significant part of the class will be devoted to using technological tools and statistical instruments of the social sciences to examine the importance of this music to our society.

Typically offered in Fall Term.
MUS401 - Music Seminar

Music seminar provides a forum in which students who have completed upper-level courses in music, along with those seriously interested in the subject matter, can engage in meaningful discourse about a variety of relevant topics and issues. Readings and musical examples are assigned for each seminar meeting, participants being given principal responsibility for leading discussions. The range of topics includes, though is not limited to, the evaluation of new music, the historical performance movement, ethnomusicology and cultural musicology, and performance and repertory subjects related to scheduled performances at the College and in Pittsburgh. Participants in music seminar will be expected to make formal presentations during the semester, submitting written work for each. Music majors and minors will present their senior music projects during the seminar, as a capstone experience in music.

Typically offered in Spring Term.

MUS500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Neuroscience

Professor: Sheers, Wilson

Associate Professors: Bayline (director), Leonard, Matsuno

The neuroscience program is an interdisciplinary program with faculty members from biology, chemistry, psychology, and physics. The program provides two courses of study. The neuroscience emphasis is provided for students who major in biology or psychology. Students majoring in other disciplines may complete a neuroscience minor. These courses of study are designed for students interested in graduate study or employment in any of the disciplines associated with neuroscience, including neurology, molecular neuroscience, psychiatry, and biopsychology.

EMPHASIS REQUIREMENTS: Along with the requirements in each student's biology or psychology major, the student must complete three core courses in neuroscience (NSC 210, 300, and 400). Additionally, each student must complete a neuroscience-related research project that may be fulfilled by either an on-campus tutorial or independent study project, or a summer or Intersession internship.

MINOR REQUIREMENTS: Students in all majors other than biology or psychology must complete the equivalent of six courses for the minor. These courses include two introductory science courses from two different disciplines (BIO 101 or 102, CHM 160, PHY 101 or 107, or PSY 101), the three core neuroscience courses (NSC 210, 300, and 400), and a neuroscience-related research project that may be fulfilled by either an on-campus tutorial or independent study project, or a summer or Intersession internship.

NSC210 - Introduction to Neuroscience

This course is intended to expose students to the world of the neuroscientist. Students will learn the subject matter of neuroscience and gain insight into the interdisciplinary nature of the field, bridging psychology and biology, as well as topics in physics and chemistry. To this end, we will examine various topics from the perspectives of these different disciplines. Examples
of topics may include: cognition, motor systems, emotion, sensory systems, development, consciousness, evolution, and pharmacology. Each module will include lecture and background information, a discussion on a specific research question within the topic, and some type of demonstration or applied experience.

Offered spring term only

Prerequisite: One of the following courses: BIO 101 or 102, PSY 101, CHM 160, or PHY 101 or 107

NSC300 - Experimental Neuroscience

This course will combine lectures, laboratory exercises, discussions, and independent projects to allow students to explore topics across the breadth of the field of neuroscience. These topics will include neuroanatomy, neurophysiology, synaptic transmission, anatomy and physiology of sensory and motor systems, behavioral and cognitive neuroscience, and neural development. In the laboratory, students will learn a wide variety of experimental techniques focused on anatomical techniques, physiological techniques, behavioral techniques, and computational techniques. Through these exercises, the students will learn to design, implement, and analyze experiments. Scientific writing will be emphasized. Finally, students will learn to critically read and evaluate research as presented in the primary literature through class presentations and discussions.

Offered fall term

Prerequisite: BIO 102 or NSC 210

NSC400 - Advanced Topics in Neuroscience

This course is designed for students acquiring an emphasis in neuroscience. In the course, we will explore different topics in the neurosciences surrounding a central theme by reading and presenting papers from the primary research literature. Potential topics include: neural development, neurobiology of disease, pharmacology and drug effects, computational modeling of neural networks, and neurobiology of sexual behavior. All classes will have a discussion format. Students will be required to give at least two oral presentations of the research presented in a paper. In addition, the major project in this course will be the preparation of a grant proposal by each student based on a review of the primary research literature in the field.

Offered spring term

Prerequisites: NSC 210 and 300

NSC500, 501 - Independent Studies in Neuroscience

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Prerequisite: NSC 300

Philosophy
The mission of the Department of Philosophy is carried out through its courses, through interdisciplinary studies to which it contributes, through its promotion of the W&J Philosophy Club, and through its efforts to involve students with the philosophical community both regionally and nationally. The philosophy department aims to help students improve their skills in careful reading, critical thinking, and clear writing. It also seeks to provide opportunities for students to explore the foundational questions underlying both their lives and their careers. Finally, it seeks to provide a major course of study that will enable students to be successful in arenas from graduate programs in philosophy to professional schools in law or medicine to a wide range of careers in which reading, thinking, and writing skills are vital.

MAJOR REQUIREMENTS: The philosophy major consists of nine courses, including PHL 123; at least one course from PHL 201, 204, or 205; at least one course at the 300-level; and PHL 450 Research Seminar in Philosophy, the philosophy capstone. The remaining elective courses can include any PHL course or up to three of the following: “Introduction to Mind, Brain, Behavior,” POL 341, or POL 342. A maximum of four 100-level courses may count toward the major. Students contemplating graduate study in philosophy are encouraged to take both PHL 201 and PHL 204.

MINOR REQUIREMENTS: Six courses in philosophy including at least two courses at the 200-level or above. Up to two non-PHL courses that would count toward the philosophy major may count toward the philosophy minor.

NOTE: None of the 100-level courses have prerequisites. Any would be appropriate for a beginning philosophy student.

PHL101 - Beginning the Conversation-An Introduction to Philosophy

Various original sources are used in order to provide a first acquaintance with some of the language, techniques, and concerns commonly associated with philosophy and, most important, to provide an opportunity to join in the conversation of philosophy itself.

PHL123 - Introduction to Logic

This course provides an introduction to deductive reasoning in both its classical and modern forms.

PHL130 - Moral Philosophy

A survey of the major current approaches to moral theory, combined with an examination of their application to important contemporary moral problems.

PHL135 - Social and Political Philosophy

This course presents classical and contemporary conceptions of the nature and aim of social and political communities, with discussions of current social issues.

PHL137 - Philosophy and Race

This course is an introductory exploration of central philosophical issues that arise from the embodied character of human life and are raised by philosophers of color. How does our perceived race affect the content of our social experience? How can society work toward a genuinely common political community that is composed of people of significantly differing social and cultural traditions? What are the requirements of racial fairness?

PHL138 - Philosophy and the Arts
This course is an introduction to aesthetics, focusing on the role of the arts in human life and society. Through engagement with classic and contemporary texts and a variety of artworks, this course addresses such questions as: What is art? Could anything be art and is art a special type of product or activity distinct from other domains? What makes one work of art better than another? What is the value of the arts in society or in the individual life?

**PHL145 - Faith and Reason**

This course is an introductory-level course exploring the relationship between reason and faith, particularly as they relate to the grounding of religious belief. The course will explore both classical and contemporary readings. This course is the same as REL 145.

**PHL201 - Classical Philosophy**

The earliest phases in the development of Western philosophy, from its origins into the Christian era, are explored. Special emphasis will be on Plato and Aristotle.

*Prerequisite: One PHL course or permission of the instructor*

**PHL204 - Early Modern Philosophy**

This course presents philosophy from the time of Galileo to the French Revolution, with emphasis on Descartes, Hume, and Kant.

*Prerequisite: One PHL course or permission of the instructor.*

**PHL205 - Nineteenth-Century Philosophy**

One of the most diverse periods of Western philosophy, encompassing German Idealism and its wake, is explored. Emphasis will be on Hegel, Kierkegaard, Marx, and Nietzsche.

*Prerequisite: One PHL course or permission of the instructor.*

**PHL221 - Metaphysics and Epistemology**

This course presents problems and debates about metaphysics (the philosophical nature of the world) and epistemology (theories of knowledge). An emphasis is placed on contemporary debates rather than historical traditions. Topics regularly include the nature of time, causation, free will, the persistence of objects over time, perception, justification and skepticism about knowledge.

*Prerequisites: One PHL course or permission of instructor.*

**PHL222 - Philosophy of Language**

This course will serve as an introduction to central themes and topics in the philosophy of language. Most of the topics covered in the course center around the notion of meaning. What are the ingredients of meaning? How does the meaning of an expression contribute to the meaning of a sentence containing it? What is involved in understanding the meaning of what is said? What should a theory of linguistic meaning look like? The first part of the course will focus heavily on the interplay between meaning and reference, and we will consider questions such as the following. What does it take to understand a linguistic expression? How can belief reports be accommodated within a theory of meaning? What special problems do context-sensitive expressions raise for a theory of linguistic meaning? The second part will focus more briefly on the interplay between meaning and truth. And
in the third part, we will consider some aspects of the interplay between meaning and use, focusing on the theory of speech acts and figurative language.

Prerequisites: One PHL course or permission of instructor.

**PHL223 - Symbolic Logic**

This is an intermediate logic course providing an acquaintance with some of the techniques of twentieth-century symbolic logic.

Prerequisite: PHL 123 or permission of instructor

**PHL225 - Philosophy of Science**

This course is an exploration of the nature of scientific inquiry. It will examine such basic issues as the nature of scientific explanation, the confirmation of scientific hypotheses, and the character of scientific change. It will also examine the rules of data, theory, and the dynamic of scientific communities in the process of gaining scientific knowledge.

Prerequisite: One PHL course or permission of the instructor.

**PHL230 - Moral Theory**

This course explores the state of contemporary debates in moral theory. Some classical sources are included to orient students to the origins of various theories, and the course covers both normative theory (accounts of what ought to be done) and metaethics (accounts of the nature of moral theories and facts).

Prerequisites: One PHL course or permission of instructor.

**PHL231 - Environmental Ethics**

This course is an examination of the ethical issues and perspectives that arise in our human encounter with the natural environment. Is the moral community comprised solely of human beings or does it extend to animals and perhaps even trees? Is moral value best understood from the perspective of individual beings or is it better understood in terms of communities or ecosystems? The course also will explore a range of environmental issues, including population, world hunger, pollution, global warming, and sustainability.

Prerequisite: One PHL course or permission of the instructor.

**PHL232 - Bioethics**

This course addresses contemporary debates on numerous topics in medicine, biotechnology and public policies regulating them. Some review of major ethical theories included. Topics may include informed consent, euthanasia, genetic engineering, reproductive rights, among others. Highly recommended for students with interests in the health professions or applied ethics.

Prerequisites: One PHL course or permission of instructor.

**PHL236 - Philosophy and Gender**

This course explores the central themes that are currently being pursued by philosophers in debates on the nature of gender. Regular topics include the roles of biology and social practices in developing gender, whether there are viable gender-neutral accounts of science and objectivity, and the role of gender in ethics.

Prerequisites: One PHL course or permission of instructor.

**PHL238 - Aesthetics**

In this course, we will discuss selected topics in contemporary aesthetics and the philosophy of art. In the first part of the course
we will examine general questions concerning the status and nature of art, the experience of art, and the interpretation of art. These questions will include: What is art? Is there such a thing as a distinctive aesthetic attitude or aesthetic experience? What is the relation between aesthetic and non-aesthetic properties? Does authorial intention affect aesthetic interpretation? Do our cognitive beliefs affect our aesthetic experiences? Can there be great works of art that are morally bad? In the second part of the course we address more specific questions that arise in particular fields of art. These questions will include: How and what do pictures represent? How does music express emotions? What is dance?

Prerequisites: None

**PHL242 - Philosophy of Mind**

This course investigates the nature of mentality, focusing on the relation between the mind and the body. Topics may include consciousness, the self and personhood, meaning, innateness, perception, knowledge of other minds, and the possibility of artificial intelligence. Relevant research in psychology, neuroscience, and linguistics may be considered.

Prerequisite: One PHL course or permission of the instructor.

**PHL270-Topics in Philosophy**

An introductory survey of a selected topic in philosophy: e.g., aesthetics, philosophy of history, philosophy of sport. Actual topic will be announced in the preregistration bulletin.

Prerequisite: One PHL course or permission of the instructor.

**PHL341 - Kant**

This course will explore the theoretical, moral and religious philosophy of Immanuel Kant, one of the greatest and most influential figures in the history of Western philosophy. The first half will focus on some crucial sections of his foundational work, the *Critique of Pure Reason*. These will be concerned mainly with his views on the conditions and scope of human knowledge and his radical distinction between things as they appear to us and things as they are in themselves. The second half will turn to the basic principles of his theory of morals, his groundbreaking views on religion, and his conception of a necessary connection between the concern to be moral and religious belief.

Prerequisites: Two PHL courses or permission of instructor.

**PHL370 - Advanced Topics in Philosophy**

This course is similar to PHL 270 with the exception that some prior acquaintance with philosophy will be expected. Actual topic and prerequisites will be announced in the preregistration bulletin.

Prerequisites: Two previous PHL courses, at least one of which must be at the 200 level, or the permission of the instructor.

**PHL450 - Research Seminar in Philosophy**

This course is the culmination of the undergraduate introduction to philosophy. The topics and readings to be covered here will be determined by the participants’ required senior essay project, to be written in conjunction with this course. Details concerning this requirement are available from any member of the philosophy department.

Prerequisites: Four previous PHL courses, including the completion of one major (20-page) research essay in philosophy.

**PHL500, 501 - Independent Study**

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special
The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

**Physical Education**

**Director:** Glock

The mission of the Department of Physical Education/Wellness is to provide the knowledge for students to make healthy lifestyle choices throughout their lifetime. The programs are designed to provide proficiencies in lifelong recreational activities and wellness concepts to enable our graduates to make worthy use of leisure time. The attention of all students is directed to the physical education/wellness requirement contained in the College-Wide Requirements section in this catalog. Students should complete this requirement by the end of their sophomore year.

**PED101 - Beginning Racquetball**

(1/4 Course)

An introduction to the sport of racquetball, this course emphasizes skill development, knowledge of rules, and playing strategies.

**PED103 - Sports Nutrition for Health and Fitness**

(1/2 Course)

This course focuses on the understanding and application of sports nutrition principles for the casual exerciser, elite athlete, or sedentary student interested in good health and exercise.

**PED104 - Fitness Through Activities**

(1/2 Course)

This course is designed to help students formulate and maintain their own physical fitness program through participation in a variety of activities. Students will learn the concepts of improving and assessing cardiovascular endurance, building muscular strength, and increasing flexibility.

**PED105 - Folk, Square, and Ballroom Dance**

(1/4 Course)

This course is an introduction to folk dances typical of foreign countries. Ballroom dances (fox-trot, waltz, cha-cha, polka), square dances, line dances, and current popular dances also will be taught.

**PED106 - Attaining the Mental Edge**

(1/2 Course)

This course focuses on the understanding and application of mental training principles to be utilized in the area of psychology,
sports, and job skills. Concepts such as mental imagery, goal-setting, motivation training, and relaxation are introduced. Students will learn about team building, leadership, communication, and motivating skills applicable to personal goals, sports performance, and job-related situations.

**PED107 - Fly Fishing**

(1/4 Course)

This course is an introduction to the fundamentals of fly-fishing. Students will learn basic skills in casting, tying knots and flies, and identifying fishes and insects. Field trips on Saturdays will be part of the course and a fee will be assessed.

**PED108 - Beginning Tennis**

(1/4 Course)

This course serves as an introduction to the sport of tennis. Students will learn the rules, basic mechanics, techniques, and strategies of tennis.

**PED109 - Weight Training**

(1/2 Course)

This course is designed to teach the proper mechanics and benefits of weight training.

**PED110 - Ice Skating**

(1/2 Course)

An introduction to the fundamentals of ice skating, this course emphasizes learning basic skills, balance, proper technique, and safety on the ice.

**PED111 - Badminton**

(1/4 Course)

This course is an introduction to the basic strokes and strategy of badminton.

**PED112 - Beginning Swimming**

(1/2 Course)

This course is an introduction to survival techniques and basic stroke mechanics to those individuals who cannot swim.

**PED113 - Aquatics**

(1/2 Course)

A course designed to give a general overview of different aspects of aquatics. Stroke mechanics, water safety techniques,
conditioning, pool maintenance, competitive swimming, and swimming meet management will be taught. The course is geared for a wide range of swimmers.

**PED114 - Lifesaving-Lifeguarding**

(1/2 Course)

This course provides the basic skill of lifesaving and the specialty knowledge needed to work as a lifeguard. American Heart Association certification in both areas may be obtained.

**PED115 - Kung Fu-Beginner Level I**

(1/2 Course)

This course is an introduction to the basic movements, step forms, and self-defense applications.

**PED116 - Yoga**

(1/4 Course)

This course is designed to teach the fundamental skills for astanga yoga practice, including yoga breathing, sun salutations A and B, and other yoga poses.

**PED117 - Beginning Golf**

(1/4 Course)

This course is an introduction to the fundamental techniques and skill of golf. A greens fee will be assessed for this course.

**PED118 - First Aid and CPR**

(1/4 Course)

This course is designed to give elementary first aid training and basic life support capabilities. Red Cross certification in both areas may be obtained.

**PED119 - Bowling**

(1/4 Course)

An introduction to bowling for fun and recreation, this course emphasizes skill development and knowledge of rules. This class will be held at the bowling alley and a fee will be assessed.

**PED120 - Soccer**

(1/4 Course)
This course is an introduction to the sport of soccer. Emphasis will be placed on skill development, rules, technique, formations, and game strategies.

**PED121 - Lacrosse**
(1/4 Course)
This course introduces the history, basic rules, strategies, skills, and general play of lacrosse.

**PED122 - Water Aerobics**
(1/4 Course)
A water exercise class focusing on cardiovascular conditioning and muscle toning.

**PED123 - Self Defense for Women**
(1/4 Course)
This course is an introduction to basic self defense techniques from a front, side, or rear attack.

**PED124 - Handball**
(1/4 Course)
This course is an introduction to the sport of handball. Emphasis will be placed on basic skill techniques, strategies, and rules of the game.

**PED200 - Health, Wellness, and Physical Education in the Elementary School**
(1 Full Course)
This course will focus on health, wellness, and Physical Education instruction. It is specifically designed to instruct teacher education students in the principals of lifelong wellness beginning in the elementary school with emphasis on motor development and healthy living.

_A school internship is required._

**PED201 - Intermediate Racquetball**
(1/4 Course)
This course is designed to teach advanced shots, movement patterns, doubles play, and strategies of racquetball.

**PED208 - Intermediate Tennis**
(1/4 Course)
A course designed for students who have already attained the basic skills to play tennis. Advance skills in ground strokes, serves, volleys, and overhead shots will be taught.

**PED215 - Kung Fu-Level II**

(1/2 Course)

This course is designed to teach an intermediate level Northern White Dragon set from Northern 5-Animal Shaolin and the representative defense applications.

**PED216 - Intermediate Yoga**

(1/4 Course)

This course is a continuation of PED 116 Yoga and is designed to teach advanced astanga yoga in a sequential (Vinyasa) movement pattern.

**PED217 - Intermediate Golf**

(1/4 Course)

This course is for the intermediate golfer. Emphasis will be placed on shot selection, trouble shots, bunker play, rules, and etiquette of the game. Green fees must be paid by the student.

### Physics

**Professor:** Cannon, Pettersen (chair), Sheers

**Assistant Professor:** McCracken

Physics attempts to give a description of the natural world, from quarks to quasars, based upon observation and expressed mathematically. The physics department at W&J has an active, accessible faculty, and a tradition of students who succeed in graduate study, business, and industry. Students of the department benefit from one-on-one interaction, opportunities for research, and a sense of community. The department's offerings include a major and minor in physics, a major in biological physics, and courses in the areas of physics, earth and space science, information technology, and environmental studies.

**MAJOR REQUIREMENTS:** PHY 101 and 102 or 107 and 108; 209, 234, 313, 319, 341, 342, 390, 441, and 442; and two additional courses at the 300 and 400 levels. MTH 208 is required. PHY 441 and 442 serve as the capstone experience.

Students considering a major in physics are encouraged to start PHY 107 and MTH 151 in the fall of the freshman year. PHY 107 can be started in the sophomore year. Students considering changing to physics as a major should discuss the matter with the department chair.

**MINOR REQUIREMENTS:** PHY 101 and 102 or 107 and 108; 209, 313, 319 and one other physics course listed in this catalog at the 200 level or higher.

**AP Policy:** Students scoring a 5 on PHYSICS B AP test receive credit for PHY-101. Students scoring a 5 on PHYSICS C-MECH AP test receive credit for PHY 107. The Physics department recommends that students who are exempted from either PHY 101 or PHY 107 take another course in physics or another of the sciences during their first semester at W&J. Pre-health and pre-engineering students are advised not to take advanced placement credit in physics.

**TEACHER CERTIFICATION:** Students may seek Secondary Education (7-12) Certification in Physics by completing the Physics major and an Education minor consisting of those courses required for Secondary Education (grades 7-12) Certification. Before being formally admitted to the program, students must satisfy-by the end of the sophomore year-the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.
PHY101, 102 - Introductory Physics

This course is an introduction to physics using algebra. Emphasis will be given to applications of physics to biological systems. Fall term consists of mechanics, thermodynamics, heat, and sound. Spring term consists of electricity and magnetism, optics, and modern physics. Either PHY 101 or 102 satisfies the laboratory science requirement.

Prerequisite: PHY 101 is a prerequisite for 102

PHY107, 108 - General Physics

This course is an introduction to physics using calculus. It is recommended for students with calculus, students in physical sciences or engineering, and students who plan to attend graduate school in the sciences. Fall term consists of mechanics and conservation laws, simple harmonic motion, mechanical waves, heat, and thermodynamics. Spring term consists of electricity and magnetism, simple circuits, optics, special relativity, and modern physics. Analysis and problem-solving are emphasized. Either PHY 107 or 108 satisfies the laboratory science requirements.

Prerequisites or corequisites: MTH 151 for PHY 107; MTH 152 and PHY 107 for PHY 108

PHY149 - Good Vibrations

This course is a hands-on, laboratory-based exploration of the physical principles underlying music and the psychophysical aspects of auditory perception. No previous background in science is necessary. Some use of basic algebra is required. This course satisfies the laboratory science requirement.

PHY209 - Modern Physics

An introduction to modern physics, including quantum physics and special relativity. The theory is developed from the observed experimental phenomena.

Four hours lecture, three hours lab

Prerequisites: MTH 152 and PHY 101 or 107, PHY 102 or 108

PHY233 - Introduction to Mathematica®

This course explores how the Mathematica® programming language can be used to solve applied mathematics problems using symbolic computation, numerical computation, and visualization (graphics). Examples will be drawn from the fields of mathematics, science (primarily physics and engineering), and finance (depending on student interest). The mathematical basis for calculations will be introduced with the topics. This course does not count as a lab science course.

Prerequisite: Mathematics 151 (Calculus I) or permission of instructor. An additional mathematics course is recommended.

PHY234 - Mathematical Methods in Physics

Mathematical techniques that stress physical relevance and application are studied. Coordinate systems, vector functions, power series, ordinary and partial differential equations, numerical integration and differentiation, complex numbers and functions, real and complex matrices, probability, nonlinear equations, and dynamics.

Three hours lecture, three hours lab

Prerequisites: MTH 152 and PHY 101 or 107, PHY 102 or 108 concurrent
**PHY313 - Electricity and Magnetism**

Electric and magnetic fields, including interaction with matter, Maxwell's equations, and an introduction to special relativity are presented.

*Prerequisites or corequisites: MTH 208 and PHY 234*

**PHY317 - Thermal Physics**

Temperature, entropy, heat and work, classical and quantum statistics, cryogenics, and kinetic theory are studied.

*Prerequisites or corequisites: MTH 208 or PHY 234*

**PHY319 - Classical Mechanics**

Newtonian mechanics, including motion of a particle and systems of particles in inertial and rotating coordinate systems, central forces and celestial mechanics, motion of rigid bodies, and chaos. An introduction to Lagrangian mechanics is presented.

*Corequisite: MTH 208*

**PHY322 - Electronics**

This course is a study of modern electronics and scientific instruments with an emphasis on microelectronics. Measurement and control applications include AC and DC circuits, power supplies, amplifiers, and logic devices. Instrumentation concepts include feedback controls, data acquisition, and microcomputer interfacing.

*Three hours lab per week in addition to lecture*

**PHY327 - Biological Physics**

This course introduces the student to the physics of living systems, with emphasis on the physics of biological molecules (including DNA, proteins, and lipids) and cellular and system function. A portion of the course will survey topics in current biological physics research.

*Prerequisite: PHY 234*

**PHY331 - Quantum Mechanics**

This course is an introduction to the elements of quantum physics with emphasis on the theoretical underpinnings. Basic "facts of life" in the atomic world, wave-particle duality in physical systems, wave-mechanical descriptions, structure of the hydrogen atom, many-electron atoms, and discussion of radiation are studied. Examples from various areas of physics selected to illuminate how the theory works in practice.

*Prerequisites: MTH 208 and PHY 209*

**PHY341, 342 - Experimental Physics I, II**

(1/4 course)
This course is an introduction to modern experimental techniques with emphasis on laboratory arts, computerized data acquisition and analysis, and analysis of error. Laboratory exercises are supplemented by timely, topical lectures by staff members and by students enrolled in the course.

**PHY381 - Special Topics in Physics**

A course with content changing from year to year. During any particular year, the material offered is selected to meet the needs of eligible students for that year. The topic for any given year will be selected from the following: computational physics, electricity and magnetism II, electrical circuits, optics, and special and general relativity.

*Prerequisites: PHY 313 and 319*

**PHY390 - Physics Seminar**

(1/2 Course)

An introduction to current research, students will study published research articles of current interest in physics or related fields, and present them to the rest of the class. Emphasis is placed on critical reading, oral presentation, study of current experimental and theoretical methods, searching the literature, and reading about the exciting frontiers of physics research.

*Prerequisite: Junior or senior standing*

**PHY441, 442 - Senior Research I, II**

(1/4 Course, Unbilled)

Independent senior research, under departmental approval and supervision, including literature search, design and construction of experiment, theory, calculation, and analysis, culminating in a bachelor's thesis. The project may be one suggested by the instructor or one proposed by the student and approved by the instructor. This is the capstone experience to the physics major.

**PHY500, 501 - Independent Study**

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

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**Political Science**

*Professors:* Benze, DiSarro (chair), Gai

*Associate Professors:* Misawa

The political science department recognizes the importance of a discipline-based education within a strong liberal arts tradition. Specifically, the department seeks to impart to our students the essential skills and knowledge for a successful career in a
political science-related field such as academia, government, law, or international affairs. Students also master a specific core of discipline-based knowledge and an understanding of their civic responsibilities in a global community. The department provides faculty mentoring, not only through academic advising but also through career counseling and exposing our students to practical political experience.

MAJOR REQUIREMENTS: Political science majors are required to successfully complete 10 courses. The distribution of the 10 courses is as follows: three introductory courses: POL 110, 111, and 120; three courses at the 300 level or above: one course each from American Government/Public Policy (POL 302, 310, 312, 313, 314, 315, 411, and 412), international/comparative politics (POL 320, 321, 322, 330, and 331), and normative/empirical theories (POL 340, 341, and 342); three electives; and one capstone experience chosen from the following options: a directed independent study, POL 450 field experience, or a 400-level seminar. The department must approve all capstone experiences and students must submit a proposal for their capstone experience to the department chair by March 1 of their junior year.

NOTE: An appropriate philosophy course may satisfy the political science major requirement in normative/empirical theories with the approval of the department chair. MTH 225 is recommended for prospective graduate school students. Foreign language proficiency at the intermediate level or above is recommended for majors who intend to pursue international careers or graduate studies in international/comparative politics.

AP Policy: Students scoring a 4 or 5 on the Comparative Government and Politics AP test receive credit for a POL elective course (POL 100AP). Students scoring a 5 on the U.S. Government and Politics AP test receive credit for POL 111. Students scoring a 4 on the U.S. Government and Politics AP test receive credit for a POL elective course (POL 100AP).

POL100 - Principles of Government

This course is an introduction to political science. Main topics include political ideologies, political culture, democracy and authoritarianism, political participation, governmental institutions, and international politics.

Freshmen only

POL110 - Origins of American Government

This course focuses on the origins and evolution of governments; ideas and methods of analysis applicable to the development of American structure and systems relative to the great constitutional issues.

POL111 - Processes of American Government

An exhaustive study of principles and policies produced, implemented, and judged by the formal branches of American government, by their subdivisions, and by public opinion and pressure groups.

POL120 - World Politics

This course is an introduction to international relations and comparative politics. Topics include states and nations, political systems, political processes, developed countries, developing countries, and politics among states.

POL210 - Urban Politics

Traditional structures of government in the context of change and factual and normative aspects of the "New Federalism" are studied.

POL212 - Political Parties
A study of party organization, operation, and underlying assumptions in modern democratic societies, the emphasis is on the American party system.

**POL213 - Public Policy**

This course is a general introduction to public policy. Through the use of lectures, readings and assignments, students will be introduced to policy concepts such as policy types, agenda building, policy creation and initiation, and policy evaluation. In the last third of the course, these concepts will then be applied to a specific policy area.

**POL220 - U.S. Foreign Policy**

This course is designed to introduce students to the basic historical background, concepts, and issues in the study of U.S. foreign policy. The course examines different theories, patterns, sources, and participants in the U.S. foreign policy-making process. The class will focus on American relations with Western Europe, Asia, Latin America, the Cold War/Soviet Union, post-Cold War, the Middle East, and Africa.

**POL230 - Politics of Africa**

This course is designed as a basic introduction to the study of African politics. It examines the major theories and issues that exist in African politics today, with a focus on the historical evolution of African political systems (traditional), colonial rule, one-party dictatorships, and military regimes, as well as the crisis of political legitimacy and Africa's search for democracy.

**POL231 - Politics of China**

This is an introduction to Chinese politics. After a brief look at the modern Chinese political history from 1840 to 1949, the course focuses on the Chinese political and economic system since 1949. The communist period under Mao between 1949 and 1976 will be compared to the post-Mao reform period since 1978.

**POL232 - Politics of the Middle East**

This course is designed to introduce students to the basic historical background of the Middle East, and the contemporary impact of the region on world politics, including terrorism. The Middle East region provides a variety of complex cultural, social-linguistic groups, religions, and political traditions. The dominant political cultures of the region offer a unique understanding of politics and society in all the different Middle Eastern countries represented.

**POL240 - American Political Thought**

This course is a study of the political ideas of selected American statesmen and philosophers from the colonial period to the present with attention on the connection between theory and practice in the American republic. Topics addressed include liberty, equality, constitutionalism, democracy, and individual rights.

**POL250 - Special Topics**

This course is a study of selected problems, issues, and cases in political science.
POL302 - The Modern State

This course examines the policy process in the modern state with emphasis on agenda building, models of the policy process, case studies of specific policies, and the evaluation process.

POL310 - Public Administration

This course is a study of the general principles and processes of public administration as demonstrated by the policies of public administrative agencies.

Prerequisite: POL 111

POL312 - Women and Politics

This course provides an overview of women in politics, beginning with the colonial experience and the writing of the Constitution through women's suffrage to women as voters, members of interest groups, political candidates, and office holders. Policy issues related to gender, such as employment equity and reproductive rights, are also examined.

POL313 - Environmental Policy

This course is an introduction to environmental policy. Topics covered include a history of environmental policy, identification of major policy actors (both inside and outside of government), the conflict between environmental policy and natural resource policy, and alternatives to the regulatory approach.

Prerequisite: POL 213 is suggested but not required

POL314 - The American Presidency

An analysis of the constitutional and political posture of the chief executive within the American political system, this course gives special consideration to the nature and scope of executive power and to decision making in the White House. Discussions and lectures will focus on topics such as presidential selection, accountability, personality, and the comparative analysis of selected presidents.

Prerequisite: POL 100, 110, or 111, recommended but not required

POL315 - The Legislative Process

This course is an analysis of the legislative process in the United States government with a focus on Congress. Emphasis is placed upon constitutional powers and limitations, member goals, congressional elections, congressional structures, and the relationships between Congress and other parties (the executive branch, judicial branch, interest groups, political parties, etc.) in the effort to construct policy.

Prerequisite: POL 111 or permission of instructor

POL320 - International Politics

An in-depth study of international relations, main topics include theories of international relations, international organizations, trade and monetary issues, peace and security issues, politics of the global north and the global south, and global ecopolitics.

Prerequisite: POL 120 or permission of the instructor
POL321 - International Law

The aim of this course is to examine and to introduce to students the actual working of law within the present arrangement of states (state system), the inevitable limits of this type of legal order, and the possible role of international legal order that transcend these limits. The emphasis of the course will be on international organizations.

Prerequisite: POL 120 or permission of the instructor

POL322 - International Political Economy

This course deals with the dynamic relationships between politics and economics in the international arena. Major topics include theories of international political economy, international trade relations, the international monetary system, globalization, the global north and the global south, and the global environment.

Prerequisite: POL 120 or permission of the instructor

POL330 - Comparative Politics

This course is an introduction to the study of comparative politics. The course aims at introducing the student to the theory and basic concepts of comparative politics, such as political system, forms of governments, process, and policy. These concepts will be introduced through the comparative study of different European parliamentary political systems, including the European Union.

Prerequisite: POL 110 or 120

POL331 - Politics of Developing Countries

This course is an examination of politics in the developing countries and transitional democracies. The course focuses on political development, totalitarian dictatorships, military authoritarian regimes, and the transitional democracies in Russia and Eastern Europe, Asia, Africa, Latin America, and the Middle East.

Prerequisite: POL 110 or 120

POL340 - Research Methods

This course is an introduction to empirical research methods in political analysis. Main topics include concepts and hypotheses, operationalization and measurement, research design, survey research, data collection, data processing, and data analysis.

Prerequisites: Any two political science courses

POL341 - Political Thought-Pre-Modern

Analysis and discussion of selected thinkers and doctrines in Western political thought from the Greeks through the Reformation thinkers. An effort is made to enter as participants into this tradition of discourse. The emphasis is on primary sources.

Prerequisites: POL 110 and 111
**POL342 - Political Thought-Modern**

This course focuses on the writings and ideas of great political philosophers and the most significant political theorists from the sixteenth to the twentieth century (Machiavelli to Mao). The course will explore the concepts of the modern state, political structure and authority, Western political traditions, revolutions, and non-Western political ideas in this time period.

*Prerequisites: POL 110 and 111*

**POL350 - Special Topics**

This course is an advanced study of selected problems, issues, or cases in political science.

*Prerequisite: Dependent on the topics covered*

**POL410 - Seminar-American Politics-Public Policy**

A seminar for advanced political science majors, intended as one of the alternatives for the political science capstone experience. This particular seminar is designed primarily for students preparing for graduate study in American government, public policy, or the law.

*Prerequisites: POL 111, 213, and junior status*

**POL411 - Constitutional Law, Politics, and the Federal System**

This course is an analysis of significant judicial decisions and political forces that have shaped the American federal system and its institutions.

*Prerequisite: POL 111*

**POL412 - The Supreme Court and the Bill of Rights**

This course is an examination of major judicial decisions and political conflicts that have shaped and defined the guarantees of the Bill of Rights and the Fourteenth Amendment.

*Prerequisite: POL 411 or permission of the instructor*

**POL420 - Seminar-International Relations-Comparative Politics**

A seminar for advanced political science majors, intended as one of the alternatives for the political science capstone experience. This particular seminar is designed primarily for students preparing for graduate study in international studies or comparative politics.

*Prerequisites: POL 320 or 330 and junior status*

**POL450 - Field Experience**

This course is an educational experience designed to supplement traditional classroom work. It is intended as one of the alternatives for the political science capstone experience. The student is provided with a unique opportunity to gain substantive
knowledge as well as practical experience as to the inner workings of government. The field experience may include not only working in governmental institutions but also in campaign organization, and nonprofit political institutes as well as legal offices.

*Prerequisites: POL 110, 111, and senior status*

**POL500, 501 - Independent Study**

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

**Pre-Law**

**Professor:** DiSarro (Legal Profession Committee chair)

The Pre-Law Program advises students interested in the legal profession and helps prepare students for admission to law school. Although no specific courses are required for pre-law students and such students may major in any subject they choose, pre-law students are encouraged to take challenging courses in accounting, English composition, and literature as well as law-related courses in economics, history, and political science. Further information about the Pre-Law Program is available from Dr. Joseph DiSarro.

**Professional Writing**

**Coordinator:** Harding

**Steering Committee:** Fleury, Harding, Taylor

The professional writing concentration is an interdisciplinary cluster of four courses that complements all academic majors. Students who complete the concentration should be able to write clear non-academic prose for a variety of audiences. The concentration has also been designed to encourage fluency in research, technology, design, and professional ethics.

Students completing the concentration may choose courses from a variety of departments to suit their own interests and academic goals. All students take the foundational course, ENG 201: Introduction to Professional Writing. Additional Group 1 courses address central issues in the field; Group 2 courses address supplementary issues. Courses may be taken in any order. A pre-approved internship or editorship may be completed in place of a fourth class.

Students who intend to apply to graduate school in Professional Writing are encouraged to complete Advanced Professional Writing (ENG 301) and to complete an internship and/or editorship.

**CONCENTRATION REQUIREMENTS:** four courses from at least two different departments, including:

- ENG 201
- one course chosen from Group 1: COM 120, ENG 202, ENG 203, ENG 301, or CIS 271
- one course chosen from either Group 1 (listed above) or Group 2: BIO 215, COM 320, COM 360, COM 381, ENG 200, ESP 301, FRN 371, GER 371, CIS 275, MUS 310, PHL 231, PHL 232, SPN 371, THR 181
- one of the following: an additional course from either Group 1 or Group 2, an approved internship, or an approved editorship

**Psychology**

**Professors:** Bennett, Cavoti (chair), Crabtree, Wilson
Associate Professors: Klitz, McDonald

Assistant Professor: Seltzer

Psychologists study behavior from a wide range of perspectives that include social, clinical, physiological, developmental, organizational, and cognitive psychology. As a member of the science division, the psychology department employs empirical methods to learn about behavior and the variables that affect it. The department also participates in a wide range of research and applied programs that intersect our discipline including neuroscience; mind, brain, and behavior; child development and education; and human resource management.

MAJOR REQUIREMENTS: All students must complete a minimum of eight courses in psychology including PSY 101, 102, 215, and one advanced laboratory course from 405, 406, 425, 427, 465, 475, or 485. Students are also required to take MTH 225. In addition, majors must complete one 300-level course plus two courses from PSY 225, 235, 245, 265, 275, 285, and 295. Please note that PSY 101, PSY 215, and the advanced laboratory course must be completed successfully at W&J. The department also recommends that students take ENG 200 and COM 220.

MINOR REQUIREMENTS: All students must successfully complete a minimum of six courses in psychology. PSY 101, 102, 215 are required of all minors. PSY 215 must be successfully completed at W&J. All other courses should be considered electives. At least two elective psychology courses must be taken from PSY 225, 235, 245, 265, 275, 285, and 295.

Sequencing: For both the major and the minor, successful completion of PSY 101 and 102 is required before any additional courses may be taken in psychology. With the exception of certain Intercession courses as noted in the Intercession listing of courses, students must successfully complete a 200-level PSY course before taking a 300-level PSY course. Students must successfully complete PSY 215 and a 300-level PSY course before taking an Advanced Laboratory course.

AP Policy: Students scoring a 5 on the Psychology Advanced Placement Test will receive credit for PSY 102 and will begin their study of psychology at W&J with PSY 101.

CHILD DEVELOPMENT AND EDUCATION MAJOR: The child development and education major is offered by the psychology department in cooperation with the education department. The major consists of the following courses: EDU 201, 207, 301, 302, 303, 304, 350, 406, PSY 101, 102, 225, 265, 275, either PSY 330 or EDU 403, and either EDU 406 and 407 (certification) or 408 and 409 (non-certification) serve as the capstone experience for the major. MAJORS majoring in Child Development and Education may not major or minor in Psychology.

TEACHER CERTIFICATION: Students majoring in Child Development and Education may seek teacher certification in Early Childhood (PreK-4) or Upper Elementary (4-8). See the Education (Teacher Certification) and Child Development and Education sections of the catalog for more information.

HUMAN RESOURCE MANAGEMENT EMPHASIS: The human resource management emphasis is open to majors in business administration or psychology who wish to prepare for the study of human resource management in graduate school and/or pursue a career in human resource management. To complete this program, a psychology major must complete the following courses as part of the major: PSY 101, 102, 225; one from 295, 303, or 392; and one from 235, 245, 324, or 330. In addition they must complete: ECN 101; ACC 211, 212; and BUS 301, 319 and 350. It is also strongly recommended that the student complete an internship in an industrial/organizational setting. Students interested in this program are advised to contact Professor Seltzer of the Department of Psychology.

MIND, BRAIN, AND BEHAVIOR PROGRAM: The Mind, Brain, and Behavior Program represents an interdisciplinary inquiry into the determinants of behavior. The program seeks to introduce students to this interdisciplinary undertaking by examining how sophisticated systems carry out functions such as vision, memory, and language. Focus is on understanding the determinants of behavior from multiple perspectives. Psychology majors wishing to complete this program must take one of the following courses as part of their major: PSY 225, PSY 265, PSY 285, or PSY 311. In addition psychology majors must take: MBB 100: Mind, Brain, and Behavior, BIO 101, BIO 102, and two from PHL 123, PHL 125, PHL 220, and PHL 250.

NEUROSCIENCE EMPHASIS: The neuroscience emphasis represents an interdisciplinary program that can be pursued by students majoring in biology or psychology. Please refer to the catalog listing for further information on these courses of study. Students majoring in biology must successfully complete PSY 500 or 501, or an approved research experience as part of the emphasis. In addition to their psychology major, students pursuing the neuroscience emphasis must successfully complete NSC 210, 300, and 400.

NEUROSCIENCE MINOR: Students not majoring in biology or psychology must complete the equivalent of six courses for the minor. These courses include two introductory science courses from two different disciplines (BIO 101 or 102, CHM 160, PHY 101 or 107, or PSY 101), the three core neuroscience courses (NSC 210, NSC 300, NSC 400), and a neuroscience-related research project that may be fulfilled by either an on-campus tutorial or independent study project, or a summer or Intersession internship.

Psychology Majors Planning to Study Abroad:
Please note that, in order to complete the psychology major, you must successfully complete PSY 215, Experimental Psychology, by the second semester junior year if you plan to study abroad during the fall semester of your senior year.

**PSY101, 102 - Elementary Psychology I, II**

This course is a study of the basic concepts in the scientific study of behavior. The first term emphasizes the scientific method, physiology, sensation, perception, learning, and memory. The second term considers such topics as intelligence, emotion, personality, behavior disorders, therapy, and social psychology.

*Prerequisite: PSY 101 is a prerequisite to PSY 102*

**PSY215 - Experimental Psychology**

An introduction to the empirical methods employed in the scientific study of behavior. The student will gain experience in collecting psychological data and reporting of procedures and results. Problems involved in experimental design and applied statistics will also be discussed.

*Three hours lecture-recitation, three hours lab*

*Prerequisites: PSY 101 and 102, and MTH 225 (MTH 225 may be taken concurrently)*

**PSY225 - Social Psychology**

This course is an examination of the ways in which other individuals, singularly or in groups, influence an individual's behavior, attitudes, and beliefs. Topics such as conformity, altruism, aggression, obedience, attitude change, person perception, affiliation, and group dynamics will be examined.

*Prerequisites: PSY 101 and 102*

**PSY235 - Theories of Personality**

Theories of the development, structure, and function of personality, together with relevant experimental evidence, will be examined in the interest of evaluating their adequacy.

*Prerequisites: PSY 101 and 102*

**PSY245 - Abnormal Psychology**

This course studies the principal forms of mental disorder, with emphasis upon their causes, symptoms, course, and therapy.

*Prerequisites: PSY 101 and 102*

**PSY265 - Developmental Psychology**

This course examines the nature of human development from conception through adolescence. Material covers physical, cognitive, and social development, with an emphasis on understanding the interacting influence of biological and environmental factors. Topics are presented in the context of major developmental theories and empirical research, with attention to the methodological issues pertinent to the study of developmental change.

*Prerequisites: PSY 101 and 102*
PSY275 - Cognitive Psychology

This course is an introduction to cognitive psychology. Topics include how people perceive and attend to visual and auditory information; a detailed understanding of the process of memory; basic processes of reading and language; problem solving and decision making; and artificial intelligence. Students will take an experimental approach to the study of cognition, which will include reading primary source articles and participation in a set of laboratory studies that replicate many of the classic studies in cognitive psychology.

Prerequisites: PSY 101 and 102

PSY285 - Physiological Psychology

This course provides information on how physiological processes control behavior. Basic neuroanatomical and neurophysiological processes will be used to explain the following human and animal behaviors: sensation, movement, sex, thirst, hunger, emotion, aggression, learning, memory, and mental disorders.

Prerequisites: PSY 101 and 102

PSY295 - Industrial-Organizational Psychology

This course examines psychological principles as they apply to industrial and business enterprises. Such areas as selection and placement, leadership, satisfaction, morale, training, small group interaction, and labor-management relations will be considered.

Prerequisites: PSY 101 and 102

PSY303 - Organizational Behavior Management

This course is an in-depth examination of the application of behavior analysis to industrial and business settings. It begins with a thorough review of the basic concepts of behavior analysis, but emphasizes the application of these techniques. Several actual cases of managerial problems in business and industry will be examined carefully, along with their solutions. Since students will be expected to develop their own intervention plans to address actual management challenges, this course is especially valuable to those individuals planning careers in applied psychology, business, or industry.

Prerequisites: PSY 101 and 102, and any 200-level PSY course

PSY311 - History and Systems in Psychology

A course examines the influence of philosophical antecedents, early scientific contributors, and major learning theorists to the development of psychology. Theories and systems will be critically evaluated in terms of contributions and how adequately they explain and predict behavior.

Prerequisites: PSY 101 and 102, and any 200-level PSY course

PSY321 - Psychology and the Environment

Students will focus on the relationship of our behavior and experiences with the natural and man-made environments. The course will be divided into three major sections. Section I will be introductory and will examine what environmental psychology is and how it studies its questions of interest. Section II will examine the natural environment and topics like noise, temperature, and natural disasters. Section III will examine the man-made environment and topics like crowding, cities, work and leisure, and personal space. (Counts as a course for the Environmental Studies Program)

Prerequisites: PSY 101 and 102, and any 200-level PSY course

PSY324 - The Psychology of Communicating
With consideration of the communication source, message characteristics, and channels of communication as a foundation, students will analyze a variety of communication situations and attempt to learn what contributes to their success or failure. Topics will include persuasion, influence, nonverbal communication, and mass media with particular emphasis on advertising. The course will examine how psychological factors play a role in each.

**Prerequisites: PSY 101 and 102, and any 200-level PSY course**

**PSY326 - Psychology and the Law**

This course will focus on applications of personality, social, cognitive, and clinical psychology to the courtroom. The legal system's informal theories about human behavior will be compared to what we know about the psychology of human behavior. A number of topics will be explored in-depth, including scientific jury selection, the accuracy of eyewitness testimony, and the role of psychologists as expert witnesses.

**Prerequisites: PSY 101 and 102, and any 200-level PSY course**

**PSY330 - Principles of Psychological Assessment**

This course is an examination of the use of tests within psychological work and research. The psychometric issues of tests and of test construction will be examined. Also examined will be the current varieties of psychological tests in use including intellectual, ability, personality, clinical, projective, neuropsychological, interest, and occupational tests.

**Prerequisites: PSY 101 and 102, and any 200-level PSY course**

**PSY347 - Special Topics in Psychology**

This seminar emphasizes contemporary theories and issues in psychology and related areas.

**Prerequisite: PSY 101 and 102, and any 200-level PSY course**

**PSY370 - Sensation and Perception**

This course is an introduction to the five basic senses -- touch, smell, taste, hearing, and vision. The first half of the semester will be devoted to discussing the basic aspects of vision, including the biology of the visual system, color perception, identification of objects, depth perception, and visual illusions. The second half of the semester will be devoted to hearing, touch, smell, and taste. The course will take a functional approach to the senses, describing not only how the senses work, but what the senses are used for, and how impairments in the senses can have a profound influence on everyday life.

**Prerequisites: PSY 101 and 102, and any 200-level PSY course**

**PSY380 - Drugs and Behavior**

This course studies the effects of psychoactive drugs on behavior. The topics to be covered include the physiological basis of drug effects; drug pharmacology; the behavioral effects of the most-often used prescription and nonprescription drugs (including alcohol); and the psychological, social, and legal consequences of drug use.

**Prerequisites: PSY 101 and 102, and any 200-level PSY course**

**PSY382 - Psychology of Sex & Gender**

This course is designed to allow students the opportunity to review and contemplate current research and scholarship dealing with the categories of male and female. The material is divided into two broad categories: theories that attempt to explain why there are similarities and differences between males and females, and the accumulated research that attempts to identify those similarities and differences. Theories covered in the course include biological, evolutionary, psychoanalytical, social learning, and cognitive development. Areas of difference studied include physical, emotional, health, cognitive and social. This topic provides an excellent means to evaluate many issues from a critical perspective. Students can see how observable phenomena can be interpreted differently by using varied theoretical frameworks. The topic also lends itself well to looking at issues about the ethics and politics of science.

**Prerequisite: PSY 101 and 102, and any 200-level PSY course**
PSY392 - Psychology of Management

This course is an extension of industrial psychology, which focuses upon the problems of management in industry. Supervisor-subordinate relations; management selection, placement, and training; decision making; and special problems that managers are likely to encounter will be stressed.

Prerequisite: PSY 101 and 102, and any 200-level PSY course

PSY405 - Advanced Laboratory in Learning

This advanced laboratory course explores methods and findings from classical learning theory. Topics include classical and operant conditioning and observational and spatial learning. The course includes experiments with both human and animal subjects. No invasive techniques are used.

Three hours lecture, three hours lab

Prerequisite: PSY 215

PSY406 - Advanced Laboratory in Perception and Cognition

This advanced laboratory course will introduce techniques necessary to perform experiments in perception, memory, and reasoning. At the end of the course, students will design and perform their own experiment using the techniques learned in the course. The lecture portion of the course will be organized around three main topics, sensory information processing, memory, and thought processes.

Three hours lecture-recitation, three hours lab

Prerequisite: PSY 215

PSY425 - Advanced Laboratory in Social Psychology

This advanced laboratory course is designed to explore the methods of investigation used in social psychology, the study of how people think about, influence, and relate to one another. These methods will be explored firsthand through a series of student-designed research projects as well as through class lectures/discussions and assigned readings of primary research articles and other sources.

Three hours lecture-recitation, three hours lab

Prerequisite: PSY 215

PSY427 - Advanced Laboratory in Social Cognition

This is an advanced laboratory course designed to introduce research methods used in social cognition -- the interface between social psychology and cognitive psychology. These scientific methods will be explored firsthand through student-designed research projects. Selected topics in social cognition will be explored in depth.

Three hours lecture-recitation, three hours lab

Prerequisite: PSY 215

PSY430 - Seminar in Psychotherapy and Counseling

This course provides a systematic and critical examination of major traditional, as well as current, theories and techniques of
psycho-therapy and counseling. Emphasis will be on the examination of the theoretical bases of psycho-therapy and counseling systems and techniques, and on the application of such theoretical principles in the remediation of psychological disturbances.

*Prerequisites: PSY 235 or 245*

**PSY465 - Advanced Laboratory in Developmental Psychology**

This course examines the application of the scientific method to the study of developmental phenomena in the field of psychology, with an emphasis on the social and cognitive domains. Students will learn about methodological issues encountered in developmental research and gain experience in searching for, reading, and discussing empirical work in the field. Students will apply their knowledge and skills by conducting a semester-long research project that will be presented in oral, written, and poster form at the end of the semester.

*Prerequisite: PSY 215*

**PSY475 - Advanced Laboratory in Sensation and Perception**

This advanced laboratory course is designed to examine the methods of research used in sensation and perception, specifically in the area of reading, including the study of eye movements in reading. The course will include the analysis and presentation of material from primary source readings (journal articles and/or book chapters) related to the sensory and perceptual processes involved in reading. The course will culminate in student research projects, which will include research design, execution of the study, analysis of data, and presentation of the results in a written research report and participation in a class poster session.

*Three hours lecture-recitation, three hours lab*

*Prerequisite: PSY 215*

**PSY485 - Advanced Laboratory in Behavioral Neuroscience**

This upper-level laboratory course examines basic neuroanatomical and neurophysiological processes used to explain behavior. Research methodology and instrumentation will be the major features of laboratory exercises.

*Three hours lecture-recitation, three hours lab*

*Prerequisite: PSY 215*

**PSY499 - Psychology Practicum**

This course is a supervised field experience in some approved area of human behavior. Areas may include institutional work, school psychology, special education, etc.

*Prerequisite: Selection and screening by department*

**PSY500, 501 - Independent Study**

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.
Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

**Religious Studies**

**Professor:** Vande Kappelle (chair)

The mission of the religious studies department is to acquaint students with the role religion has played and continues to play in the total development and life experience of humanity. Courses taught by the department encourage students to combine intellect with passion, scholarship with service, and to integrate religious and moral values into lifestyle and career in ways that will be wholesome and beneficial to them and to others.

**MINOR REQUIREMENTS:** Six courses, including a minimum of four courses in the department of Religious Studies. Of these, at least one course must be from the advanced (300) level. For courses outside the department that are applicable to the minor, consult with the department chair. Only one Intersession course may be used in fulfillment of the minor.

In some rare cases, students may petition the department for exceptions to these requirements. Such petitions must be submitted to the department for approval in advance.

**REL101 - Introduction to Religion**

This course is an examination of religious experience and beliefs and their expression in symbol, ritual, myth, theology, ethics, and community. Using a comparative case study approach, this introduction to the field of religious studies offers the student an opportunity to encounter and reflect upon religion in human life. The course exposes students to basic religious questions, concepts, and phenomena from different religions and different historical periods.

**REL102 - Religion in America**

This course is an introduction to the history, themes, and issues in American religion from the precolonial period to the present. This course examines the principal religious traditions and movements that have shaped American culture and politics, including Native American and African American traditions, Puritanism, Catholicism, Judaism, revivalism, religious movements originating in America, American civil religion, the emergence of fundamentalism, the religious roots of the civil rights movement, the changing role of women in religious life and thought, and the contemporary challenge of religious pluralism in American society.

**REL103 - Introduction to Judaism-Its History, Beliefs, and Practices**

A survey of Judaism and its emergence from Israelite religion into the rabbinic culture of interpretation and halakah (Jewish law). Using both a historical and thematic approach, the course focuses upon key periods of development and upon the major ideas, movements, and practices central to ancient and modern Jewish life and thought. Attention is paid to the role of sacred Jewish texts and interpretation, community, covenant, and halakahic observance as well as the crises, challenges, and choices confronting Judaic faith and practice today. The course includes such topics as anti-Semitism, the Holocaust, and the state of Israel.

**REL104 - Introduction to Christianity-Its History, Beliefs, and Practices**

An essential introduction for students who want to understand the dynamics of the world’s most numerous religion. Using a historical approach, the course examines the biblical sources, the centrality of Jesus, the essential doctrines of Christian theology, and what it means to be a Christian in the modern world.

**REL105 - Introduction to Islam-Its History, Beliefs, and Practices**
This course is a study of the origin and growth of Islam as a religious, cultural, and political force in the world. Beginning with the founding by the Prophet Muhammad in the early seventh century, the course presents a detailed explanation of the Qur'an, as well as the core of beliefs and obligations. The course also explores the content and practical applications of the Sharia (Islam's holy law); the differences between the Sunnis and Shiite forms in their historical, theological, and sociopolitical perspectives; Sufism; and Islam's strength and influence in the contemporary world in addition to social factors such as ethnicity, nationality, and gender.

**REL115 - Human Origin-Scientific and Christian Perspectives**

Explanations concerning human origin touch at the core of what it means to us to be human. This class will explore the topic of human origin from scientific and Christian perspectives. The nature and philosophy of science, the historical interaction between Christianity and science, and the scientific and creationist views that offer explanations for our origin will be discussed.

**REL145 - Faith and Reason**

This is an introductory-level course exploring the relationship between reason and faith, particularly as they relate to the groundings of religious belief. The course will explore both classical and contemporary readings. This course is the same as PHL 145.

**REL201 - The Hebrew Bible (Old Testament) in Context**

An academic study of the Hebrew scriptures in their historical and cultural setting, designed to acquaint students with the central beliefs and moral values that helped shape Western society. This course examines the major themes of the Old Testament (e.g. creation, fall, exodus, covenant, promised land, royal theology, prophecy, wisdom, and apocalyptic) as well as its sources, types of literature, principal narratives, main characters, and religious value.

**REL202 - The New Testament in Context**

An academic study of the literature of the New Testament in its historical and cultural setting, designed to acquaint students with the central beliefs and moral values underlying the Christian religion. This course examines the life and teaching of Jesus Christ, the origin and early history of the Christian Church, the teachings of Paul and the apostles, and the Book of Revelation.

**REL203 - Biblical Studies**

A study of a selected book or topic from the Bible.

*Normally taught during Intersession*

**REL204 - World Religions (Non-Christian)**

A general introduction to the major living religions (including primal religious expressions of North America and Africa, Judaism, Islam, Hinduism, Buddhism, Confucianism, and Daoism), to the leading problems of religious thought, and to the alternative approaches of world religions to ultimate questions concerning the meaning of human life.

**REL205 - Western Religious Traditions**

Western civilization has been shaped decisively by three monotheistic religious traditions -- Judaism, Christianity, and Islam. Despite their distinctiveness, these traditions share a common background and numerous historical convergences. Using a comparative approach, this course examines such topics as scripture and tradition; monotheism; authority; worship and ritual;
ethics; material culture (e.g., architecture, art, food, musical instruments, and ritual objects); religion and the political order; and the presence of radical (fundamentalist) forms of expression within these traditions that is increasingly shaping the course of world history.

**REL206 - Eastern Religious Traditions**

A general introduction to the major Asian religious traditions, including Hinduism, Buddhism, Jainism, Sikhism, Confucianism, Daoism, and Shintoism as well as the place of Islam in historical and contemporary Asia. Using a historical and geographical approach, this course examines the religious literature, the central beliefs, and the sacred practices of each tradition in addition to such factors as ethnicity, nationality, and gender.

**REL208 - Adventures in Spirituality**

Understanding religion both as art form and as means toward personal and social transformation, this course introduces students to different understandings of spirituality; to stages of spiritual growth and formation; to various spiritual themes, representative thinkers, and practitioners (primarily, though not exclusively, from the Christian tradition); to the established spiritual disciplines; and to goals and deterrents of spirituality. Students will have the opportunity to examine their own personality (and spirituality) type.

**REL215 - Faith and Film**

This course examines basic religious questions (e.g., the existence of God, the problem of free will, the immortality of the soul, the problem of evil, the notion of divine revelation, the nature of religious experience) in the light of the art form of contemporary film.

**REL232 - Sociology of Religion**

This course is a study of religion as a social institution, including its historical development, its organization and operation, its effects on individuals, and its relation to society as a whole. Special attention is given to contemporary issues of secularization, new religious movements, civil religion, the rise of evangelical and fundamentalist movements, religion and politics, and religion and health. This course is the same as SOC 232.

**REL247 - Topics in Religion**

A course in religious studies varying from year to year. The topic or subject to be studied in any term will be published in the preregistration bulletin.

**REL301 - The Development of Western Christianity**

A study of the growth and development of Christianity against the backdrop of select ideologies and worldviews that have influenced Western civilization from the classical Greek period to the present. Important issues of human existence as well as theological concerns will be examined from an historic Christian perspective, including the meaning of God; human nature; epistemology (the sources of knowledge); cosmology (the nature and meaning of reality); ethics and social relationships; and the development of such Christian doctrines as the Trinity, Christology, salvation, sin, the Church, the sacraments, eschatology, and the relation of Christianity to other world religions.

*Prerequisite: One previous religious studies course or permission of the instructor*

**REL302 - Global Christianity**
Though the story of Christianity has been inextricably bound up with that of Europe and European-derived civilizations, above all in North America, for most of its history Christianity was stronger in Asia and North Africa than in Europe. During the past century, the center of gravity in the Christian world has shifted inexorably southward to Africa, Asia, and Latin America. This course examines the spread of Christianity through the non-Western world, focusing on the inculturations of the past and on concepts of cultural synthesis that are transforming this missionary religion from a primarily Western phenomenon to a chiefly southern one. Particular emphasis is placed on such recent developments as liberation theology, feminist perspectives, evangelicalism, and neo-Pentecostalism. Topics include relations between Christians and non-Christians in regions of the world marked by conflict and instability.

Prerequisite: One previous religious studies course or permission of the instructor

**REL310 - Europe Transformed-Renaissance and Reformation, 1450-1650**

This course is a study of the cultural and religious transformation of Europe focusing on the emergence of humanism, the rise of Protestantism, and the resurgence of Catholicism. This course is the same as HIS 302.

**REL355 - Global Buddhism**

This course is an examination of the philosophical and religious transformations of Buddhism as it was spread from India to other parts of the world. Particular emphasis is placed on early Buddhist beliefs and practices in India, and on later expressions in Tibet, China, Japan, and the contemporary United States. This course is the same as HIS 355.

The course is limited to juniors and seniors

**REL500, 501 - Independent Study**

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

**Reserve Officers' Training Corps (ROTC)**

Program Director: Dodge

Army Reserve Officers’ Training Corp (ROTC) programs emphasize qualities of character and responsibility that are embedded in W&J’s mission to graduate the "well-educated person." Every course in W&J ROTC teaches personal qualities of leadership, character development, and ethics, as well as skills of teamwork, analysis, problem solving, and oral and written communication, that will help students in their other curricular and co-curricular efforts at the College.

ROTC is an elective curriculum students can take along with their required college classes. Pursuit of ROTC may be combined with any of W&J's areas of study. Freshmen and sophomores may enroll in the Army ROTC Basic courses (101, 102, 201, and 202) without commitment of service to the Army unless they have already received an Army ROTC Scholarship. Students can enter the program as incoming freshmen; as existing freshmen or sophomores without scholarship assistance; or as two-, three-, or four-year scholarship students, based on the time remaining to complete their degree.

Army ROTC scholarship students, or those who enter the Army ROTC Advanced courses (301, 302, 401, 402), must agree to complete an eight-year obligation to the Army. Additional program details, including eligibility requirements, can be obtained from
the faculty director; from the ROTC office; or by emailing rotc@washjeff.edu.

**REQUIREMENTS:** ROTC Scholarship students must take one MSC course each semester they are under contract with the Army. Non-scholarship students may take MSC 101, 102 (as freshmen) or MSC 201, 202 (as sophomores) without commitment. The Advanced ROTC courses (MSC 301, 302, 401, and 402) require contract with the Army. All ROTC courses must be taken under the Satisfactory/Unsatisfactory grading option.

**MSC101 - Adaptive Team Leadership**

(1/4 course, Unbilled)

MSC 101 introduces the new student to the Army culture and the process of developing, educating and training the Army Officer. The course covers the Army organization, ranks, roles of Soldiers, as well as leadership fundamentals such as setting direction, problem-solving, listening, presenting briefs, providing feedback, and using effective writing skills. Students will explore dimensions of leadership attributes and core leader competencies in the context of practical, hands-on, and interactive exercises. This course requires participation in physical training (PT) for one hour three days per week. The PT component is a combination of strength conditioning, running, and cardiovascular exercises, and requires a passing score on the Army Physical Fitness Test (contracted students only) by the end of the semester.

PED: Counts for ½ course of PED for students who successfully complete the course.

**MSC102 - Introduction to Tactical Leadership**

(1/4 course, Unbilled)

MSC 102 overviews leadership fundamentals such as setting direction, problem-solving, listening, presenting briefs, providing feedback, and using effective writing skills. Cadets explore dimensions of leadership values, attributes, skills, and actions in the context of practical, hands-on, and interactive exercises. This course requires participation in physical training (PT) for one hour three days per week. The PT component is a combination of strength conditioning, running, and cardiovascular exercises, and requires a passing score on the Army Physical Fitness Test (contracted students only) by the end of the semester.

PED: Counts for ½ course of PED for students who successfully complete the course.

**MSC201 - Foundation of Leadership**

(1/4 course, Unbilled)

This course explores the dimensions of creative and innovative tactical leadership strategies and styles by examining team dynamics and two historical leadership theories that form the basis of the Army Leadership Requirements Model (trait and behavior theories). Cadets practice aspects of personal motivation and team building in the context of planning, executing, and assessing team exercises and participating in leadership labs. Focus is on continued development of the knowledge of leadership values and attributes through an understanding of Army rank, structure, and duties, and basic aspects of land navigation and squad tactics. Case studies provide tangible context for learning the Soldier’s Creed and Warrior Ethos as they apply in the Contemporary Operating Environment (COE). This course requires participation in physical training (PT) for one hour three days per week. The PT component is a combination of strength conditioning, running, and cardiovascular exercises, and requires a passing score on the Army Physical Fitness Test (contracted students only) by the end of the semester.

PED: Counts for ½ course of PED for students who successfully complete the course.

**MSC202 - Foundation of Leadership**

(1/4 course, Unbilled)

This course examines the challenges of leading teams in the complex operational environment. The course highlights dimensions of terrain analysis, patrolling, and operation orders. Further study of the theoretical basis of the Army Leadership Requirements Model explores the dynamics of adaptive leadership in the context of military operations. MSC 202 prepares Cadets for MSC 301. Cadets develop greater self awareness as they assess their own leadership styles and practice communication and team building skills. Case studies give insight into the importance and practice of teamwork and tactics in real-world scenarios. This course requires participation in physical training (PT) for one hour three days per week. The PT component is a combination of strength conditioning, running, and cardiovascular exercises, and requires a passing score on the Army Physical Fitness Test (contracted students only) by the end of the semester.

PED: Counts for ½ course of PED for students who successfully complete the course.
MSC301 - Adaptive Team Leadership

(1/4 course, Unbilled)

This is an academically challenging course where students will study, practice, and apply the fundamentals of Army leadership, Officership, Army values and ethics, personal development, and small unit tactics at the squad and patrol/platoon level. At the conclusion of this course, students will be capable of planning, coordinating, navigating, motivating and leading a squad or patrol in the execution of a tactical mission during a classroom practical exercise (PE), a Leadership Lab, or during a Situational Training Exercise (STX) in a field environment. Successful completion of this course will prepare students for success at the ROTC Leadership Development and Assessment Course (LDAC) which they will attend the following summer at Fort Lewis, WA. This course includes reading assignments, homework assignments, small group assignments, briefings, case studies, practical exercises, mid-term exam, and written papers. Students will receive systematic and specific feedback on leader attributes, values, and core leader competencies from the course instructor and other ROTC cadre and MS IV Cadets who will evaluate students using the ROTC Leader Development Program (LDP) model. This course requires physical training (PT) for one hour three days per week. The PT component is a combination of strength conditioning, running, and cardiovascular exercises, and requires a passing score on the Army Physical Fitness Test by the end of the semester.

PED: Counts for ½ course of PED for students who successfully complete the course.

MSC302 - Applied Team Leadership

(1/4 course, Unbilled)

This is an academically challenging course where students will study, practice, and apply the fundamentals of Army leadership, Officership, Army values and ethics, personal development, and small unit tactics at the team and squad level. At the conclusion of this course, students will be capable of planning, coordinating, navigating, motivating and leading a team or squad in the execution of a tactical mission during a classroom PE, a Leadership Lab, or during a Situational Training Exercise (STX) in a field environment. Successful completion of this course will help prepare students for success at the ROTC Leader Development and Assessment Course (LDAC) which they will attend the following summer at Fort Lewis, WA. This course includes reading assignments, homework assignments, small group assignments, briefings, case studies, and practical exercises, a mid-term exam, and a final exam. Students will receive systematic and specific feedback on leader attributes, values, and core leader competencies from the course instructor and other ROTC cadre and MS IV Cadets who will evaluate students using the ROTC Leader Development Program (LDP) model. This course requires physical training (PT) for one hour three days per week. The PT component is a combination of strength conditioning, running, and cardiovascular exercises, and requires a passing score on the Army Physical Fitness Test by the end of the semester.

PED: Counts for ½ course of PED for students who successfully complete the course.

Prerequisite: MSC 301

MSC401 - Adaptive Leadership

(1/4 course, Unbilled)

MSC 401 is a practical application of adaptive leadership. Throughout the semester, students are assigned the duties and responsibilities of an Army staff officer and must apply the fundamentals of principles of training, the training management, the Army writing style and military decision making to weekly training meetings. During these weekly training meetings, the student will plan, execute and assess ROTC training and recruiting events. Students will study the special trust proposed to Army Officers by the US Constitution and the President of the United States—a special trust given to no other civilian professions. Students will study how Army values and leader ethics are applied in the Contemporary Operating Environment and how these values and ethics are relevant to everyday life. The student will study the Army officer’s role in the Uniform Code of Military Justice, the counseling of subordinates, administrative actions and the management of an Army Officer’s career. Students will be given numerous opportunities to train, mentor and evaluate underclass students enrolled in the ROTC Basic Course while being mentored and evaluated by experienced ROTC cadre.

The MSC 401 course is designed to include multiple opportunities for student-centered learning, to include, but not limited to student reading assignments; homework assignments; participation in small group assignments, practical exercises and case studies; student-delivered briefings and operations orders; and a variety of student assessments such as quizzes, a mid-term and a final exam. In addition, MSC 401 students are rotated through a variety of leadership positions that support a variety of ROTC battalion training and recruiting events throughout the semester where the student will receive detailed and constructive feedback on their leader attributes and core leader competencies from experienced cadre. This course requires physical training (PT) for one hour three days per week. The PT component is a combination of strength conditioning, running, and cardiovascular exercises, and requires a passing score on the Army Physical Fitness Test by the end of the semester.
MSC402 - Adaptive Leadership

(1/4 course, Unbilled)

MSC 402 explores the dynamics of leading in the complex situations of current military operations in the contemporary operating environment (COE). Students will examine differences in customs and courtesies, military law, principles of war, and rules of engagement in the face of international terrorism. Students also explore aspects of interacting with non-government organizations, civilians on the battlefield, and host nation support.

The course places significant emphasis on preparing students for BOLC II and III, and their first unit of assignment. It uses case studies, scenarios, and “What Now, Lieutenant?” exercises to prepare students to face the complex ethical and practical demands of leading as a commissioned officer in the United States Army. This semester, students will:

- Explore Military Professional Ethics and ethical decision making facing an Officer
- Gain practical experience in Cadet Battalion Leadership roles
- Demonstrate personal skills in operations and communications
- Evaluate and develop MSC III small unit leaders and examine issues of force protection in the COE
- Prepare for the transition to a career as an Army Officer

This course requires physical training (PT) for one hour three days per week. The PT component is a combination of strength conditioning, running, and cardiovascular exercises, and requires a passing score on the Army Physical Fitness Test by the end of the semester.

PED: Counts for ½ course of PED for students who successfully complete the course.

Prerequisite: MSC 401

Rhetoric

Professor: R. Easton, Frank

Associate Professors: Fleury (program director), Harding, McEvoy

The interdisciplinary concentration in rhetoric serves as a complement to an academic major and aims to give students a foundation for developing their analytic and communication skills. Rhetoric is the "art by which discourse is adapted to its end." In other words, students study and practice effective and ethical oral, written, and visual communication. To complete the concentration, students must take four courses from at least two different departments. Courses include COM 120, 218, 220, 318, 320, 360 or ENG 200, 201, or 301. Other courses may count toward the rhetoric concentration with the written consent of the rhetoric concentration program director.

Russian

Assistant Professor: Vdovichenko

The end of the Cold War signals a new urgency in the study of Russian as the Federation moves to consolidate its position in the emerging power structures of the new century. History, language, and cultural tradition conspire to create an interesting and timely field of study. Courses in Russian language are offered through the Department of Modern Languages. Students with a background in Russian should consult with Dr. Vdovichenko about appropriate placement.

PLACEMENT PROCEDURES: All students taking a language at W&J must take the student information questionnaire prior to enrollment in that language. Students with a background in this language must also complete the computerized adaptive placement exam (CAPE). Incoming freshmen will usually take the exam prior to registration during summer orientation, but the exam may be administered at any time. The results of the questionnaire and exam will usually determine the level at which a student will begin a course of study in the language. A student who falls at the high or low end of a scoring range may be placed...
higher or lower than the course indicated, depending on the number of years of language the student has had. Placement in these situations is done in consultation with a faculty member from the relevant program. Because of the varying requirements for completing a major or minor in language, it is to the student's advantage to begin at the highest level possible.

**NOTE:** Students who have completed coursework at one level may not take courses at a lower level without departmental approval.

**RUS105, 106 - Elementary Russian I, II**

Fundamentals of grammar; regular review of the essentials; study of prose texts related to the grammar and vocabulary of each unit.

*Prerequisite: RUS 105, or permission of the instructor, is a prerequisite for RUS 106*

**RUS207, 208 - Intermediate Russian I, II**

This course includes a review of all grammar with expanded categories of verb application and readings of graduated difficulty from Russian literature. Oral drill is emphasized as well as accumulation of vocabulary.

*Prerequisites: RUS 106, or permission of the instructor, is a prerequisite for 207; RUS 207, or permission of the instructor, is a prerequisite for 208*

**RUS212 - Historical and Contemporary Moscow**

A two-week course in late May/early June at the International University of Moscow, an education institution with which Washington & Jefferson College has a formal agreement. The course will consist of 24 contact hours in Russian language taught by IUM Russian language instructors and six hours of formal lectures in English presented by specialists in economics, culture, politics, and history. Sightseeing will include the Kremlin; Park Pobeda (Victory Park), commemorating the Soviet victory over Nazi Germany in World War II; the tomb of the Unknown Soldier in the Alexander Gardens, adjacent to the Kremlin; Novodeveichey Cemetery and Convent; Tret'yakov Gallery of Russian Art; the State Duma; the Bolshoi Theater; and an overnight to the ancient cities of Vladimir and Suzdal. This is the same course as HIS 321.

Students who register for HIS 321 must select a historical and/or cultural topic and have it approved by the instructor before the course begins. The student will do some reading and research on this topic before departure. Following completion of the Moscow portion of the course, the student will research and write a paper of 15 to 20 pages on that topic. The paper will be submitted six weeks after returning from Russia.

**Note:** HIS 321/RUS 212 is treated as if it was a January intersession course, except that it occurs at the end of the academic year. It is recommended that the student actually register for the course during the fall preregistration for Intersession and spring of the academic year.

**RUS309, 310 - Advanced Russian I, II**

This is a course in the fundamental constructions and common idioms of contemporary Russian with readings and excerpts taken from the classics as well as from various aspects of Russian professional life. This course is intended to familiarize students with the language of government, economics, social sciences, the arts, and Russian journalism.

*Prerequisites: RUS 208, or permission of the instructor, is a prerequisite for 309; RUS 309, or permission of the instructor, is a prerequisite for 310*

**RUS500, 501 - Independent Study**

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only
with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

**Sociology**

**Professors:** Greb, Miller

**Associate Professors:** Hyden, Krol (chair)

Students seeking careers in health care, law, business, education, and other occupational fields are benefited by knowledge of "how the system operates." Sociology provides an introduction to the components of society as well as specialized examinations of the institutions of society - family, education, economy, government, and religion. Group interaction - an essential in sociological discussion - is a focus of most sociology courses. Sociology courses at all levels add a dimension of sophistication to the understanding and utilization of events in the "real world."

**MAJOR REQUIREMENTS:** Majors are required to complete successfully 10 sociology courses including SOC 201, 301, 412, 495 (capstone experience), and three other courses numbered 300 or above. Courses previously listed as SOC/ANT will count as electives toward the sociology major. Math 225 counts as an elective in the sociology major.

**MINOR REQUIREMENTS:** Six courses including SOC 201; two from among SOC 101, 300, 301, 302, or 412; and three other courses in sociology, which may include additional core courses. At least two of the six must be 300- or 400-level courses; no more than two 100-level courses may be counted toward the minor.

**EMPHASES:** Majors may elect the following emphases: Comparative Sociology/Global Studies - five courses from ANT 175, 263, 276, SOC 255, 262, 347, 251/351, and SOC 261 and 363 or EVS 260; Institutions and Social Structures - five courses from ANT 263 or EVS 201, SOC 225, 232, 233, 234, 240, 302, 335, 336, and 361; Social Problems - five courses from SOC 120, 223, 224, 225, 226, 234, 241, 323, 335. Students should consult their departmental advisor to plan these specialized course programs. Pre-law students are encouraged to join the Pre-law Society and to take the practice LSATs.

**ANT175 - Introduction to Anthropology**

This course is an introduction to the field of anthropology, with emphasis upon the prehistoric development and geographic patterns of culture. The behavior of humankind and its relation to environmental factors are illustrated by analysis of both traditional and modern societies.

**ANT263 - The Developing World**

The course will feature an examination of political, economic, and social conditions in areas of the world where ongoing technological developments are emerging. Impediments to this development will be examined. Included will be areas of traditional behavior including political, social, and religious constraints, presence of poverty -- both relative and absolute, and resulting physical, psychological and sociological consequences from these conditions. Relationship of societies to geographical considerations will serve as an integrating portion of the course.

**SOC101 - Introduction to Sociology**

This course is an introduction to the study of societies and social interaction by use of the sociological method. In addition to examining the basic structures and workings of societies, the course will explore both usual and unusual types of social behavior.
**SOC120 - Social Problems**

This course is a study of major problems in American society, their causes, and the effect they have on both a broad, structural level in society and on individuals. Through work in community agencies, if agencies are available, students are provided opportunities for gaining firsthand, practical experience in social responses and for defining and dealing with such problems.

**SOC201 - The Sociological Tradition**

An exploration of the social and intellectual history of sociology, this course will cover the major theories, methods, and problems of the discipline through reading some of the classic written works in the field.

**SOC223 - Juvenile Justice, An American Dilemma**

This course examines juvenile delinquency and society’s efforts to deal with it. The history of delinquency and juvenile justice is traced from colonial days to the present. The focus is on the nature of delinquency and the juvenile justice system, including police programs, diversion programs, probation, institutionalization, and aftercare as well as some of the issues involved in juvenile justice.

**SOC226 - The Sociology of Deviant Behavior**

This course is an examination of the social processes producing unusual, bizarre, and condemned behavior.

**SOC232 - Sociology of Religion**

This course is a study of religion as a social institution, including its historical development, its organization and operation, its effects on individuals, and its relation to society as a whole. Special attention is given to contemporary issues of secularization, new religious movements, civil religion, the rise of evangelical and fundamentalist movements, religion and politics, and religion and health. This course is the same as REL 232.

**SOC233 - The Family**

This course is an in-depth look at the nature and diversity of family forms in modern day America, as well as in other cultures and historical periods. Some of the topics included are the formation of families; interaction in families; dating and mate selection; and the dissolution of marriage through divorce, as well as family reformulation after divorce. Problems and strengths of the modern family will also be addressed.

**SOC234 - Sociology of Education**

An examination of the relationship of the educational system to other aspects of society, this course includes an examination of human relations within the institution, the interaction patterns between the institution and the community, and the impact of the institution on the behavior and personality of the participants.

**SOC238 - Aging – A Sociological Examination**

This course examines the social aspects of aging at both the macro and micro levels. The course explores current population
growth of the aging population in the United States and other countries, the consequences of those aging populations for national and international social and economic policies, education, employment issues, ethnic and racial issues, geographic distribution, income, housing, poverty and the proposed solutions to problems of aging populations in diverse settings. Also included are the implications of aging on health and health care policy and practice, health insurance coverage, disability, activity limitations and care giving.

Prerequisites: SOC 101 or permission of the instructor

**SOC240 - Sex Roles**

This course will provide a framework for understanding female and male roles in society, particularly as these relate to gender-based systems of stratification. Included will be such topics as the meaning and development of sex roles; gender identity; the gender-based division of labor at home and in the workplace; and change in sex roles over time. Cross-cultural and historical evidence will be emphasized.

**SOC241 - Race and Ethnic Relations**

This course is an examination of the basic concepts, theories, social processes, and resulting societal configurations of race, racism, and ethnicity. A historical and global review of selected groups will test the accuracy of the theories presented. Contemporary social interactions will be introduced as the data unfolds during the course.

**SOC242 - Asian Americans**

The course will have four perspectives. Asian-American groups will be examined from a view of their arrivals, assimilation progress, and current expectations; an examination of the homelands of the arrivals and the "push-pull" factors that led to their departure for the United States and selected Latin American countries; social, economic, and political issues currently affecting relations between Asian Americans, members of the dominant culture, and relations among the various Asian-American groups; and evaluation of contemporary views -- of short-term and long-term assimilation progress in the new “homelands.”

**SOC245 - Animals and Human Society**

Social and behavioral scientists are increasingly coming to recognize the importance of animals in human social life. From the mundane to the dramatic, animals are implicated in human societies. This course will delve into many ways, both instrumental and expressive, that animals are central to human society by considering scholarship, commentaries, and controversies on the role of animals in our lives. Students will be asked to scrutinize and critically examine the taken-for-granted role of animals in everyday social life so as to arrive at a better understanding of the profound influence of animals on our lives. The course will consider, among other things, the topics of companion and other domestic animals, attitudes towards animals, wildlife, social problems centering on animals, and the use of animals and animal imagery in economic activity.

**SOC247 - Special Topics**

This course is a study of sociological issues relating to some areas of current sociological interest in the world today. Topics change; consult pre-registration: bulletin for special topics titles and course descriptions. Potential courses include: SOC 247 Asian Americans; SOC 247 Japanese Society; SOC 247 Urban Sociology; and SOC 247 Sociology of Education.

**SOC261 - World Societies**

This course examines world societies in selected geographic areas, with particular emphasis on the relation of the physical environment and human activities. Topics include languages, religions, population, settlements, kinship, economic, and political forms. The evolution of specific cultures and distinctive cultural regions of the world will be discussed.
SOC262 - Environment and Society

Air and water pollution, the destruction of the soil and rain forests, acid rain, and global warming issues are all symptoms of human decision making and social processes. This course examines the social causes of the environmental problems the world faces today by focusing on the industrial revolution; social structures, ideologies and values; population growth and distribution; urbanization; poverty; the status of women; environmental law and criminal activity; and public policy in economic and social realms as it relates to environmental issues.

SOC265 - Urban Sociology

Examinations of urban life from the viewpoints of communities and groups, essentials of life needed for survival of urban life, and projections of the forms the urban world will assume in the future. Changes in the ecology of major urban areas in the United States will be featured.

SOC291, 292 - Tutorial

A tutorial course is intended to provide individual students the opportunity to pursue a specific course of academic work under the close direction of an instructor who has agreed to supervise the work. The 291 and 292 courses are for freshmen and sophomores while the 391 and 392 courses are for juniors and seniors.

SOC300 - Social Psychology

This course studies interrelationships of social institutions and personality; groups as personality-shaping forces; and the human individual as a culture-creating organism.

Prerequisite: At least one 100-level course in the social sciences or permission of the instructor

SOC301 - Contemporary Social Theory

This course presents major theories of society and social action from 1950 to present, with emphasis on their analysis of modern life. It also studies the relation of theory to social research and empirical evidence.

Prerequisites: At least one 100- and one 200-level sociology courses, comparable courses in the other social sciences, including psychology, or permission of the instructor

SOC302 - Sociology of Wealth and Power

This course examines caste, class, status, and power as principal forms of inequality, with emphasis on historical changes and modern conditions and consequences of inequality for social solidarity and intergroup conflict and for individual life chances and life styles.

Prerequisites: At least one 100- and one 200-level sociology courses, comparable courses in the other social sciences, including psychology, or permission of the instructor

SOC323 - Criminology
This course examines the crime problem in the United States with major emphasis on the police, prosecution, and court systems. Specific offenses will be examined as well as the causes and prevention of crime.

Prerequisites: At least one 100- and one 200-level sociology courses, comparable courses in the other social sciences, including psychology, or permission of the instructor

**SOC335 - Sociology of Health, Illness, and Disease**

The course will focus on a sociological interpretation of the field of medicine. Ethnomedicine, medical, ecology, health problems research, and health care delivery systems will be discussed. The relationship between practitioners and recipients of medical care will be analyzed.

Prerequisites: At least one 100- and one 200-level sociology courses, comparable courses in the other social sciences, including psychology, or permission of the instructor

**SOC336 - Sociology of Law**

This course considers the components of law and their relation to traditional and contemporary values of society.

Prerequisites: At least one 100- and one 200-level sociology courses, comparable courses in the other social sciences, including psychology, or permission of the instructor

**SOC347 - Special Topics**

This course is a study of sociological issues relating to some areas of current sociological interest in the world today. Topics change; consult pre-registration: bulletin for special topics titles and course descriptions. Potential courses include: SOC 347 Industrial Sociology; SOC 347 Japanese Business and Industry.

Prerequisites: At least one 100- and one 200-level sociology courses, comparable courses in the other social sciences, including psychology, or permission of the instructor

**SOC361 - Population and Demography**

Population studies focus upon the stages of population growth as well as the numbers of people and their distribution throughout the industrialized and industrializing world. Particular attention is paid to the causes of population growth including fertility, mortality and migration, the different theoretical perspectives that interpret population growth, the age/sex population structure, and current trends and consequences. Topics such as poverty, the status of women, and urbanization are discussed.

Prerequisites: At least one 100- and one 200-level sociology courses, comparable courses in the other social sciences, including psychology, or permission of the instructor

**SOC391, 392 - Tutorial**

A tutorial course is intended to provide individual students the opportunity to pursue a specific course of academic work under the close direction of an instructor who has agreed to supervise the work. The 291 and 292 courses are for freshmen and sophomores while the 391 and 392 courses are for juniors and seniors.

Prerequisites: At least one 100- and one 200-level sociology courses, comparable courses in the other social sciences, including psychology, or permission of the instructor
SOC412 - Survey Research

This course will cover all aspects of survey research, from conceptualization to questionnaire construction to data collection and analysis. Students will participate in all phases of an actual survey.

Prerequisites: At least one 100- and one 200-level sociology courses, comparable courses in the other social sciences, including psychology, or permission of the instructor

SOC495 - The Sociological Experience (Capstone Experience)

This course provides the student with an opportunity to demonstrate an awareness of sociological knowledge, the ability to apply sociological knowledge and methods to a social situation in need of investigation, and the skill needed to combine the theoretical and pragmatic aspects of sociology covered in the undergraduate program in sociology to an identified social situation. Students will report during each class period where they are in their research or experience, the nature of the material being covered and the issues and problems with which they are working. These issues and problems will be discussed by all members of the seminar.

Prerequisite: Junior or senior sociology majors only, or permission of the instructor

SOC500, 501- Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Spanish

Associate Professors: Manzari, C. Shaughnessy (program coordinator fall), Ternes (program coordinator spring)

Assistant Professor: Alpañés

The Spanish major and minor programs are offered through the Department of Modern Languages. The Spanish program offers courses in language, literature, and film with a strong emphasis on the cultural aspects of Spain and Latin America. Spanish has become one of the fastest growing languages spoken by more than 300 hundred million people in 21 countries. The Spanish program at W&J seeks to develop student language proficiency, providing the students with the necessary skills to succeed in their local and global communities.

The Spanish program at Washington & Jefferson College offers a diverse curriculum that includes Spanish language study, Latin American, Spanish and U.S. Latino literature and culture studies. Language study in the department is proficiency-based. At each of the various levels (100, 200, 300, and 400) students must demonstrate standards-based abilities appropriate for that level of study. Classes at the 100 level are elementary in nature and focus on everyday interactions, basic exchanges of information, and a functional notion of the culture. Classes at the 200 level are intermediate in nature and require students to be able to understand a wider variety of spoken and written Spanish. Students are introduced to literature and are asked to make connections between disciplines. Classes at the 300 and 400 levels are designated as “advanced level.” These classes require students to express themselves verbally and in written form on a wide variety of cultural and literary topics. These classes are taught exclusively in Spanish.

MAJOR REQUIREMENTS: Students must take six advanced (300 or 400-level) classes, three of which must be at the 400-level. In addition, students must complete a cultural requirement through study abroad in an approved semester-length program or its equivalent. For the major, students must also complete a capstone project in consultation with their major advisor. Capstone experiences may include a special project associated with a 400-level course or independent study, a language intensive
internship culminating in a presentation upon return, or a special project associated with a semester length study abroad experience.

MINOR REQUIREMENTS: Students must take three advanced level classes, one of which must be at the 400 level. Students who begin in 309 are not eligible for a minor.

NOTE: Students who have completed coursework at one level may not take courses at a lower level without departmental approval.

AP Policy: Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.

PLACEMENT PROCEDURES: All students taking a language at W&J must complete the departmental student information questionnaire prior to enrollment. Placement is determined by Spanish faculty in accordance with departmental guidelines.

TEACHER CERTIFICATION: Students may seek Specialty Education (grades K-12) Certification in Spanish by completing the Spanish major including SPN 260, and an Education minor consisting of those courses required for Specialty Education (grades K-12) Certification. Before being formally admitted to the program, students must satisfy-by the end of the sophomore year-the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

SPN105, 106 - Elementary Spanish I, II

An introduction for students with little or no knowledge of Spanish, both courses implement a proficiency-oriented approach that focuses on the rapid development of listening and reading comprehension skills through constant exposure to high-frequency language in the form of spoken and printed texts. The language students practice in class is realistic, so that they will be able to perform survival linguistic tasks. Cultural study focuses on the diversity of the Spanish-speaking world, and students will be able to appreciate and understand differences between their own culture and those of the Hispanic countries.

Taught largely in Spanish.

Prerequisites: Departmental placement; SPN 105, or permission of the instructor, is a prerequisite for SPN 106

SPN207, 208 - Intermediate Spanish I, II

This course is a review and extension of communication skills for students with a basic knowledge of Spanish. Emphasis is placed on listening, reading, speaking, writing, and culture. The course combines linguistic and cultural information and numerous opportunities to communicate in realistic situations, and to express ideas and opinions. Through extensive use of authentic materials, students are exposed to a diversity of language learning and cultural experiences. Because these selections are actual products of various Spanish-speaking cultures, students have a completely authentic view of the Spanish language and the people who speak it.

Taught in Spanish.

Prerequisites: Departmental placement; SPN 106, or permission of the instructor, is a prerequisite for SPN 207; SPN 207 or permission of the instructor is required for SPN 208

SPN257 - Spanish Literature in Translation

This course is a study of a special topic, such as Hispanics in the United States or the work of a particular author. The topic to be studied will be announced in the preregistration bulletin.

Offered Intersession

Taught in English

SPN260 - Theory and Techniques of Teaching Modern Foreign Languages

An introduction to the theoretical and practical aspects of teaching modern foreign languages, students will study the history of language teaching as well as the various approaches and strategies to language instruction and their relationship to second-language acquisition theory. This course must be completed prior to student teaching. Taught in English. This course
satisfies the Pennsylvania Department of Education requirement that candidates for certification in foreign languages receive instruction in methods of teaching foreign languages, a subject which in the last 50 years has developed an extensive literature and repertoire of theoretical approaches.

*Offered fall term, every other year*

*Prerequisites: Sophomore status and permission of the instructor*

### SPN309, 310 - Advanced Spanish I, II

These two sequential courses focus on the development and application of advanced functional, purposeful Spanish language skills, with special emphasis on speaking and writing. Through intensive writing, grammatical exercises, reading, and oral communication, students demonstrate knowledge of advanced grammar and linguistic aspects of Spanish, such as morphology, semantics, and syntax.

*Taught in Spanish.*

*Prerequisites: SPN 208, or permission of the instructor, is required for SPN 309; SPN 309, or permission of the instructor, is required for SPN 310*

### SPN354 - An Introduction to Literary Analysis

This course introduces basic theoretical and practical approaches to literary analysis. The course covers the definition and characteristics of traditional genres (narrative, poetry, drama and essay), and the correct terminology in Spanish used to analyze literary texts, while continuing to improve oral and written expression in Spanish. The course is highly practical and the students will be expected and encouraged to participate in the daily discussions with comments, questions and insights into the material.

*Taught in Spanish.*

*Prerequisite: SPN 309*

### SPN371 - Spanish Business Communication and Culture

This course provides a solid foundation in business vocabulary and an overview of basic business and cultural concepts within the geographic and cultural context of the Spanish-speaking world. The course emphasizes the development of international business communications skills through reading, writing, speaking, and listening.

*Taught in Spanish.*

*Prerequisites: SPN 309*

### SPN420 - Topics in Hispanic Culture

A study of Hispanic cultural topics, including Spain's history from medieval times to the present, Latin American culture from the pre-Colombian era to the twenty-first century, and significant issues in politics, economics, and the dynamic tension between tradition and change in contemporary Latin American society. Emphasis is given to advanced language study, composition, and oral proficiency. The topic to be studied will be announced in the preregistration bulletin.

*Taught in Spanish.*

*Prerequisite: SPN 310 or permission of the instructor*

### SPN421 - Latin American Film

This survey of Latin American film from the 1980s to the present examines the development of cinema in Latin America from its arrival as an imported technology to the present. This course is designed to introduce students to the cinematic work of a number
of Latin American film artists and to develop a more detailed and creative reception of each film. Films are studied in relation to their sociopolitical environment and emphasis is placed on close analysis as well as a contextual understanding of the material. Topics to be discussed may include the struggle to create national film industries, the "art film" and New Cinema movements, and recent trends in countries such as Mexico and Argentina as well as the Caribbean.

_Taught in Spanish._

**Prerequisites: SPN 310**

**SPN422 - Spanish Film**

This course is a survey of Spanish peninsular film from the end of the Spanish dictatorship (1975) to the present. It examines the creative cinematic product in a nation that was experiencing cultural freedom for the first time since the beginning of the 20th century. The course aims to introduce students to the cinematic work of a number of Spanish film artists and to develop a more detailed and creative reception of each film. Students will examine the different genres and styles of Spanish cinema by applying critical and creative analysis of the movies presented in class, while focusing on composition and oral proficiency. The course challenges students to draw meaningful parallels between movies and the society from which they emerge. Topics to be discussed may include the struggle to create a national and free cinematic language, the "Movida," and recent trends in Spanish cinema. This course is taught in Spanish.

_Prerequisite: SPN 310_

**SPN451 - Don Quixote**

This course is a study of Miguel de Cervantes' novel, Don Quixote de la Mancha. The philosophical, esthetic, and historical values which shaped the novel will be examined. Major critical approaches will be considered, as well as the influence that this seminal work has had in Hispanic letters.

_Taught in Spanish._

_Prerequisite: SPN 310 or permission of the instructor_

**SPN453 - Peninsular Literature I**

This course offers an overview of Peninsular literature from the Middle Ages up to 1700. Students will study authors and their textual production in view of the political, social, and cultural processes that have affected Spain through these centuries. The course is focused on textual analysis of the different literary works, research of secondary sources, and development of a critical discourse suitable to the level.

_Taught in Spanish._

_Prerequisite: SPN 310 or permission of the instructor_

**SPN454 - Peninsular Literature II**

This course offers an overview of peninsular literature from the eighteenth century to the present day. Students will study authors and their textual production in view of the political, social, and cultural processes that have affected Spain through these centuries. The course is focused on textual analysis of the different literary works, research of secondary sources, and development of a critical discourse suitable to the level.

_Taught in Spanish._

_Prerequisite: SPN 310 or permission of the instructor_

**SPN455 - Spanish American Literature I**
An introduction to basic genres, themes, and techniques to study and analyze works by major literary figures in Spanish America from the Pre-Columbian to modernist periods. The selections correspond to different stages of historical and cultural development in Spanish America so that students may gain a better understanding of how those events produced a distinct literature.

*Taught in Spanish*

**Prerequisite: SPN 310 or permission of the instructor**

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**SPN456 - Spanish American Literature II**

An introduction to basic genres, themes, and techniques to study and analyze works by major literary figures in Spanish America from modernism to the present day. The selections correspond to different stages of historical and cultural development in Spanish America so that students may gain a better understanding of how those events influenced the production of a distinct literature.

*Taught in Spanish.

**Prerequisite: SPN 310 or permission of the instructor**

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**SPN457 - Topics in Spanish and Latin American Literature**

This course is a focused study of a special topic in literature varying from year to year. Likely topics include medieval literature, modern Spanish drama, Latin American Nobel Prize winners, Latin American women writers, Latin American short story, or the work of a particular author. The topic to be studied will be announced in the preregistration bulletin.

*Taught in Spanish.*

**Prerequisite: SPN 310 or permission of the instructor**

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**SPN500, 501 - Independent Study**

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

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**Theatre**

**Professors:** Cameron, Frank (chair)

**Associate Professor:** Maresh

**Assistant Professor:** Shaw

Theatre at Washington & Jefferson College is grounded in the Liberal Arts through the study of history, literature, media, and performance -- each having an essential role in the life of a community. Theatre is an art that enables citizens to reflect upon their
community; therefore, at W&J the creation, maintenance, and evolution of communities is central to study in the discipline. The major achieves this goal through interactions between and among writers, directors, designers, actors, and audiences -- citizens all.

MISSION: With the goal of creating a complete and passionate theatre artist, the Theatre Major, in line with the Liberal Arts mission of the College, provides students with an opportunity to develop skills and knowledge that can be applied not only to a life in the theatre but also to the pursuit of other professions.

MAJOR REQUIREMENTS: Ten courses, including THR 160 , THR 152 , THR 271 , and THR 272 ; one additional introductory course from THR 181 or COM 130 ; two performance courses from THR 180 , COM 218 , THR 280 , or THR 260 ; and three advanced courses including THR 499 (required) and two of the following (one of which must be a THR course): COM 340 , THR 360 , THR 375 , THR 379 , THR 380 , THR 399 * , THR 390 , COM 381 . THR 500 , Independent Study, is also available to selected students with well-designed projects. (**THR 499 , Senior Project, is taught in conjunction with THR 399). 

THEATRE CAPSTONE: THR 499, Senior Project, is the capstone experience which explores the depth of the student’s specific talents and areas of interest in theatre. Since theatre is a collaborative art, students often work together to complete their projects, which can take the form of performances, directing projects, plays or screenplays, scholarly papers, etc. It is recommended that students complete their capstone in the first semester of the senior year.

NOTE: The following can also count toward the major: COM 330 and COM 340 with permission of the Department Chair; some Intersession and topics courses; as well as ENG 215 or ENG 315.

A student majoring in Theatre may not also major in Communication Arts. Any courses applied to the Theatre major may not count toward a Communication Arts minor.

MINOR REQUIREMENTS: A total of six courses from the Theatre curriculum, at least two of which must be at the 300-level or above. Students may count no courses for their minor in Theatre toward a major or minor in Communication Arts.

Some Intersession and topics courses, as well as ENG 215 or ENG 315, count toward the major or minor.

THR152 - Theatre as a Liberal Art

This course examines the role of theatre in society. This course is designed to give students a basic working knowledge of the theatre as a vehicle for entertainment, intellectual enlightenment, political and social awareness, and self-discovery.

_Half of the seats are reserved for freshmen and sophomores_

THR153 - Creative Dramatics

This course is an introductory course on the application of dramatic fundamentals in the K-12 classroom and other interpersonal and group contexts. Using projects and studio/lab experiences, this class explores the principles and methods used in guiding dramatic play, with an emphasis on utilizing drama as both a developmental and diagnostic tool.

_Half of the seats are reserved for freshmen and sophomores_

THR160 - Stagecraft

This course is an introductory studio in technical theatre, providing students with practice in the basic skills and knowledge required of a theatre artist working back stage. With an emphasis on contemporary practices, the course explores the challenges faced in theatrical productions---emphasizing creative solutions through artistic collaboration in areas including but not limited to: set construction, scene painting, lighting and sound.

THR180 - Acting I-Fundamentals

This course is an introduction to the theories and techniques of the art of acting for the stage. The course employs improvisational techniques, script analysis, and scene and monologue work.

_Half of the seats are reserved for freshmen and sophomores_
THR181 - Playwriting
This course is designed to teach the fundamentals of playwriting to students who will write a series of exercises, scenes, and short dramatic pieces. Playwriting is an intensive writing course that requires students to read and analyze a number of plays and to participate in story sessions designed to develop dramatic ideas.

Half of the seats are reserved for freshmen and sophomores

THR250 - Topics in Theatre
A course exploring a particular topic in Theatre not covered in regular catalog courses.

Half of the seats are reserved for freshmen and sophomores

THR260 - Production Design
This course introduces students to contemporary practices in scenic, lighting, and costume design for the theatre. Students will explore the aesthetic, practical, and creative choices one must make when developing unified designs for the stage. This class is an applied design studio; students will create physical expressions of their designs.

Half of the seats are reserved for freshmen and sophomores

THR271 - History of the Theatre I
This course is a survey of theatre history and dramatic literature from classical Greece to seventeenth-century France. Representative plays from classical Greece and Rome, medieval and Renaissance England, China, Japan, and seventeenth-century France will be read and discussed. Theatrical conventions in each period and the relationships between theatre and society will also be examined.

Half of the seats are reserved for freshmen and sophomores

THR272 - History of the Theatre II
This course is a survey of theatre history and dramatic literature from the eighteenth century to the present. The birth of modern drama in the nineteenth century and its continuous development up to the present will be emphasized. Representative plays will be read and discussed and the theatrical conventions of the modern era, and the relationship between the theatre and the society that created it, will be emphasized.

Half of the seats are reserved for freshmen and sophomores

THR280 - Acting II-Scene Study
This course continues to explore the actor’s craft. Emphasis is placed on the fundamental relationship between actor and text and the continued development of the physical, intellectual, and emotional resources of the actor.

Half of the seats are reserved for freshmen and sophomores

Prerequisite: THR 180
THR360 - Problems in Scenic Design

An advanced theatrical design studio, this problem-solving course explores the challenges of designing effective stage sets. Projects emphasize creative solutions through artistic collaboration in the face of limited resources.

Prerequisite: THR 260

THR375 - Women in American Theatre

This course examines the history of and work by women playwrights, directors, actors, and theatre managers in the United States from the late eighteenth century to the present. In this course, students also study women's history in the United States and feminist and gender theory as they influence and have been influenced by American theatre.

Prerequisite: One theatre course or one GWS course

THR379 - Directing for the Stage

This course is an examination of the process of bringing a written text to life on the stage. Directing theory, script analysis, concept development, visual storytelling, organizational strategies, and the director-actor relationship are emphasized.

Prerequisites: One theatre course

THR380 - Acting III-Advanced Scene Study

This course is an intensive study and application of acting techniques. Emphasis is placed on comprehensive script analysis, vocal and physical characterization, styles of performance, and the exploration of emotion as a means of creating dramatic truth.

Prerequisite: THR 280

THR382 - Theatre Workshop

A studio experience for advanced theatre students, this course focuses on creating original works of drama and bringing them to life on the stage by semester's end. Students will participate in the process on every level -- as writers, dramaturgs, directors, actors, designers, and stage technicians.

Prerequisites: One theatre course

THR383 - Comedy Lab

An intensive writing and performance course for the theatre student that is dedicated to creating new comedy. Students develop a number of evenings of new works, with an emphasis on the topical and timely. The course explores comedy from finding the comic idea to performing the comedic sketch before an audience.

Prerequisites: One theatre course

THR390 - Dramatic Literature

This course is an advanced seminar in selected areas of dramatic literature. Students read and study in detail the work of a
particular playwright (e.g., Henrik Ibsen, Moliére, Caryl Churchill) or a group of plays and playwrights representative of a particular country or era (e.g., twentieth-century Irish plays, post-war American drama, English Renaissance plays, ancient Greek drama).

Prerequisites: One theatre course or ENG 190

THR399 - Performance Studio

A studio experience for advanced theatre students. The class functions as a student theatre ensemble with the goal of producing one or more works of theatre over the course of the semester. Students have the opportunity to participate in the process on every level -- as writers, dramaturgs, directors, actors, designers, and stage technicians.

Prerequisites: Two THR courses or permission of the instructor

THR499 - Senior Project

This course is the capstone experience for the theatre major. In the fall or spring of the senior year, each major presents a project that explores in-depth the student's specific talents and areas of interest. Since theatre is a collaborative art, students may work in teams to complete their projects, which may take the form of performances, directing projects, plays or screenplays, scholarly papers, etc. Preparation for the senior project begins in the fall or spring of the junior year.

Prerequisite: Senior theatre majors only

THR500 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student’s advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Thematic Emphasis

To achieve flexibility in designing an original course of study, a student may propose a thematic emphasis. A thematic emphasis allows a student to retain the depth and breadth integral to an existing major while pursuing a specific focus relevant to his or her interests. For instance a student majoring in English could select three or more English courses that would comprise an emphasis in Medieval Studies. A student majoring in History might select three or more courses from History, Political Science and English to create a thematic emphasis in American Studies. Thematic emphases must be student-designed, supervised by at least one faculty member, and approved by majority vote of the department or program steering committee offering the related academic major. Please check with the appropriate Department Chairperson or Program Director, as there may be specific requirements within that discipline related to thematic emphases. (Some Departments/Programs may choose not to approve any thematic emphases.)

A thematic emphasis must include a minimum of three courses and can include independent studies and internship experiences. An emphasis can be interdisciplinary or composed of courses within one discipline. The total number of courses for the major and emphasis combined cannot exceed 16 (including any pre-requisites that apply to courses outside the discipline).

Students who complete thematic emphases will make connections between courses and will synthesize information and texts from many sources. As a culmination of the thematic emphasis, a deliverable (e.g., a three-page paper, a 20-minute oral presentation, a poster at the Student Poster Session) that provides reflection on the area of emphasis is required of each student. This deliverable will be evaluated by the faculty member who advises the emphasis. He or she will then notify the registrar (via a signed and submitted form) that the student has completed the requirements of the thematic emphasis.
Thematic emphases will showcase student initiative and creativity. They are intended to encourage active reflection upon the connections among emphasis courses. For this reason, students must submit a completed thematic emphasis proposal form to the Curriculum and Program Committee no later than October 1 of their senior year. The proposal must include the following:

- A one-page rationale for the thematic emphasis;
- A list of courses that have been or will be taken to satisfy the academic major;
- A list of a minimum of three courses that will comprise the emphasis, indicating when the student took or plans to take the courses (at least one of the courses proposed must remain to be completed);
- A plan for the deliverable which completes the emphasis; and
- Signatures of the student’s academic advisor, thematic emphasis supervisor, and Department Chairperson or Program Director for the academic major to which the emphasis is attached.

Thematic Major

The purpose of the thematic major is to provide a creative opportunity for students to build an individualized curriculum around a particular theme and to explore interrelationships between academic disciplines. Examples of some of the most recent thematic majors at the College include conservation biology, the cultural and philosophical basis of art, and American studies.

Thematic majors are developed and pursued under faculty supervision. Completed proposals must be submitted no later than the end of the add/drop period of the student's junior year.

Students may secure additional information about the thematic major from the Thematic Major web pages.

Academic Opportunities & Services

Content

- Academic Advising
- International Education and Study Abroad
- Library Services

Academic Advising

Mission Statement

Academic advising fosters the development of the whole student and is central to the teaching mission of Washington & Jefferson College.

While the advisor and advisee share the responsibility in academic planning, the student is ultimately responsible for his/her educational decisions. Through ongoing conversations, the advisor helps his/her advisee

- explore personal interests and abilities in order to create meaningful educational, extracurricular, and career plans;
- understand the College curriculum and institutional policies;
- create coherent and appropriate course schedules;
- monitor his/her progress toward fulfilling graduation requirements;
- locate campus and community resources when different or additional expertise is required; and
- become more focused, self-directed, and engaged in his/her education.

International Education and Study Abroad

Off-Campus Study (Study Abroad)

Students are encouraged to learn the languages, cultures, and customs of other nations and to deepen their understanding of world affairs. To introduce students to diverse cultures and a wider world, the College encourages its students to study abroad. The Office of Global Education maintains a list of nearly 40 approved semester- and year-long programs of academic study in more than 20 countries, including formal exchange agreements with universities in Australia, Austria, Chile, China, Costa Rica, Denmark, Ecuador, Egypt, France, Germany, Hong Kong, Japan, Mexico, the Netherlands, Norway, Russia, South Africa, South Korea, Spain, and the United Kingdom. All approved programs are regularly evaluated and monitored by faculty and staff in order to ensure high academic quality and immersion in the host culture.

The Office of Global Education conducts extensive advising activities, guiding students through the process of identifying and applying for programs that fit personal and academic goals, consulting with W&J faculty to obtain course approval, and navigating
the process of preparing to study off-campus. The office provides mandatory pre-departure orientation meetings for all students going off campus, and provides support before, during, and after the off-campus experience.

**REQUIREMENTS:** To be approved for semester- or year-long off-campus study, students must be in good disciplinary and academic standing, and have a minimum cumulative grade point average of at least 2.5 (individual programs may have higher GPA requirements). Students must have achieved at least sophomore status by the time they are to study off-campus.

**APPLICATION:** Students apply through the Office of Global Education for both international and domestic off-campus study. Students submit one application to W&J for approval to study off-campus, and another application to their selected program. As part of this process, applicants are required to consult with academic advisors and obtain recommendations from faculty.

**FEES AND FINANCIAL AID:** W&J endeavors to make off-campus study affordable to all students. Financial aid, as determined by the Office of Financial Aid, continues when students study off-campus on an approved program. In addition, students may apply through the Office of Global Education for scholarship awards specific to study abroad.

W&J requires the payment of W&J's tuition and room, and in some cases board; W&J then handles payment of the corresponding off-campus tuition, room, and board (if applicable) charges directly with the program partner. W&J charges a nominal administrative fee of $300 per semester for participation in an off-campus program. Students are responsible for airfare, international health insurance coverage, and any personal expenses. For more detailed information on how financial aid pertains to off-campus study, please consult the Financial Aid office.

**FOREIGN LANGUAGE:** As study abroad is an excellent opportunity to improve foreign language skills, students are encouraged to study the language of their host country. Students with the equivalent of at least two semesters of college-level language study may qualify to take coursework in their target language (some programs require additional semesters of language study to qualify). W&J also offers approved programs abroad where students may learn the host language while taking other coursework in English.

**ACADEMIC CREDIT:** Academic credit is given for programs approved by W&J. Students must receive a C- (C minus) or better for credit to transfer. Grades earned on semester- and year-long programs do not count in the student's grade point average, with the exception of the PCIC program in Cologne, Germany. With the approval of the appropriate academic department or program, courses taken off-campus may count toward the student’s major, minor, or general education requirements.

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**Library Services**

**U. Grant Miller Library**

The Library is a great place to study, but it has a lot more than peace and quiet to offer. The Library welcomes socializing and collaborating among faculty and students. Open 109 hours a week, it can be the last remnant of hope when you're looking for company or want to hang out and explore the newest books, magazines, or movies. The Library supports up-to-date technology with scanners, printers, and creative software suites.

The Library staff is happy to assist you with all your information needs. From selecting a topic and starting your research to helping you sort through the hundreds of thousands of print and electronic resources available in-house and online, the U. Grant Miller Library staff is there. They offer an online information literacy module as part of the First Year Seminar in order to give freshmen a solid understanding of Library resources, and all students benefit from the individualized attention of face-to-face reference assistance each evening. Database or subject focused help guides are also available.

The Library has a wide selection of popular videos and DVDs that you can borrow or view in the Library. Just click on the “New Videos” link in the Geotom catalog to see a list of our newest acquisitions, many of which have been nominated for Academy Awards. Additionally, there is an excellent selection of both educational and international movies.

Library hours are affected by Holidays and Term Breaks. See their Website for details [www.washjeff.edu/library](http://www.washjeff.edu/library).

**Hours during regular session are as follows:**

**Monday - Thursday** - 8:00am to 2:00am

**Friday** - 8:00am to 9:00pm

**Saturday** - 9:00am to 6:00pm

**Sunday** - 11:00am to 2:00am
Academic Regulations

- College Calendar & Academic Load
- Enrollment Information
- Registration Information
- Grading Policies
- Academic Honesty Policy
- Leaving the College

College Calendar and Academic Load

The College year is divided into a four-month fall term; a one-course, three-week Intersession; a four-month spring term; and a summer session. Dates of the beginning and end of each term and Intersession, the summer session, vacations, recesses, and examination periods are indicated in the academic calendar. All enrolled students must be in attendance after the opening of an academic term until the close of the final exam period for each session unless they are pursuing an approved off-campus course of study.

The typical academic load for a fall or spring term is the equivalent of four courses, with the possible addition of physical education or other partial courses. During Intersession, students are limited to one course, with the possibility of adding physical education and wellness courses. Students are required to complete 32 regular semester courses and 2 Intersession courses.

Enrollment Information

- Full-Time and Part-Time Status
- Special Status
- Class Levels

Full-Time and Part-Time Status

A student attains full-time status by being enrolled in a minimum of three courses during a 14-week term, or one course during Intersession, or two courses during a summer session, except under conditions to be determined by the Office of Academic Affairs. Students enrolled in fewer than three full courses are considered part-time. Part-time students do not have access to the full range of College resources.

Special Status

Students who wish to take one or more courses at the College, but who are not seeking a degree, may apply as special students. Special students who subsequently decide to seek a degree at Washington & Jefferson College should contact the Office of Admission.

Class Levels

For the purpose of course registration, students are grouped into classes according to the following rule:

- Students who have completed fewer than eight courses* are considered freshmen;
- Those who have completed at least eight courses, but fewer than 16, are sophomores;
- Juniors have completed at least 16 courses, but fewer than 25; and
- Seniors have completed 25 or more courses.

*Please note that physical education courses are not included in these calculations, and that your academic progress is evaluated along a related rule for financial aid purposes.

Registration Information

- Faculty Advisor
- Declaration or Change of Major
- Registering for Classes
- Penalties for Late Registration
- Changes to a Schedule (Add-Drop)
- Course Auditing
- Overload Policy
- Fifth Course
Faculty Advisor

Every student has a faculty advisor. Freshmen are advised by their First Year Seminar instructor; students who have not declared a major by sophomore year will be assigned to open major advisors. Once a student has declared a major, he or she will usually be advised by a member of that department. Faculty advisors will assist in selecting courses, counsel on academic progress, and help develop vocational plans and objectives. In all academic advising, the student has certain responsibilities. He or she must arrange meetings with the advisor several times a term, not just prior to registration. It is the responsibility of each student to know both the general graduation requirements and those of the student's major field of study, and to meet all requirements satisfactorily for graduation.

Declaration or Change of Major

All new first-year students enter the College as open majors, in order that they may explore freely the College's academic offerings. First-year students may declare a major at the end of the fall term, and all students must declare a major by the end of the sophomore year. This declaration is nonbinding.

Students declare or change their majors via a form obtainable from the Office of the Registrar or its website. The declaration or change of a major does not take effect until recorded in the registrar's office. They should also choose a new advisor in the discipline they intend to pursue. Students should consult the department chair for assistance in selecting a major advisor. Those students intending to pursue a double major should retain advisors in both disciplines.

Registering for Classes

Incoming first-year students will receive assistance with the class registration, along with other information, during LAUNCH, one of the College's orientation programs for new students. During LAUNCH, students meet with faculty advisors who will acquaint them with the College's curriculum and academic policies. Transfer students participate in a separate, similar orientation program.

Current or re-enrolling students at the College will use WebAdvisor, the online registration system, to sign up for classes. The registrar's office publishes deadlines and procedures prior to each registration period, typically held in November for Intersession and spring terms and in April for summer and fall terms.

Penalties for Late Registration

Please contact the Business Office at 724-503-1001, ext. 6014 for the latest information regarding penalties for late registration.

Changes to a Schedule (Add-Drop)

Students may begin making changes to their schedules immediately following the close of the registration period. This is called the add/drop period. For fall or spring terms, students may make changes to their registrations up to the end of the first full week of classes. For Intersession, students have until the end of the second day of the Intersession term. Course changes made before this add/drop deadline do not appear as course registrations, and no record of the transaction will appear on the student's transcript. After the add/drop period ends, a student may withdraw from one or more courses, but may not add a course. Withdrawing from a course after the add/drop period will result in a designation of that withdrawal on the student's transcript (in the form of a W).

Add/drop transactions can be processed as follows: if the desired course is open and the student has the necessary prerequisites, it is possible to add or drop via WebAdvisor, the online registration system. If the course is at full capacity or if the student does not have the necessary prerequisites, the course can only be added with instructor and advisor permission using the Course Petition form available at the registrar's office. The transaction is not final until the form is returned to the registrar's office and processed. Students processing add/drops through WebAdvisor should follow the registrar's online instructions for receiving verifications of the transaction.

Course Auditing

Auditing of a course, for no credit, is permitted upon the payment of tuition incurred and the written consent of the instructor. Permission must be obtained from the registrar's office by the end of the add/drop period as described in the Changes to a
Schedule (Add/Drop) section.

**Overload Policy**

For full-time students, fall and spring tuition cover nine course registrations, or the equivalent, per academic year. Intersession courses are included in tuition in two of these years; in other years, a ninth course can be taken during the regular semester at no additional charge, in accordance with the Fifth Course policy. Additional Intersession course registrations (beyond two) incur overload tuition at the posted summer school rate. Students registering for more than 36 credits (the equivalent of nine courses) in one academic year will be charged a fee per credit in excess of the 36.

Please note that this calculation is based on what you register for in a year, rather than what you complete. Your registration for each term is tabulated at the end of the add/drop period. Finally, this policy does not apply to physical education and wellness courses, applied music studies, MTH 320, MTH 420, PHY 441, PHY 442, BIO 301, or freshman and sophomore-level ROTC courses (MSC 101, 102, 201, and 202).

**Fifth Course**

A fifth course can be taken by any student who has completed one semester on campus; the student must be in good academic standing with a grade point average of 2.00 or better. A fifth course that results in more than nine course registrations for a single academic year may carry an additional tuition charge, in accordance with the overload policy.

Students can obtain the Fifth Course Petition Form from the registrar's website.

**Class Attendance**

Students are expected to attend all scheduled meetings, lectures, discussions, diagnostic exercises, and laboratory periods that constitute the course in which they are enrolled. Absences which, in the opinion of the professor, are damaging to a student's academic work will be reported to the Office of Academic Affairs. Continued absence may result in the dismissal of a student from the course with a grade of F.

Students will be disenrolled from any courses they are registered for at the start of the semester but fail to attend at least once before the end of the add/drop period.

In the case of illness, a student must report immediately to the Office of Health Services so that competent medical attention may be provided. A student choosing to pursue medical care through another practitioner should notify the Office of Student Life so they can be aware to the illness.

In all cases of absence, it is the student's responsibility to notify his or her course instructors of the situation, either directly or through the student life office. Students may be asked to provide documentation supporting the reason for their absence, and should be aware that faculty attendance policies remain in effect even in cases of illness.

**Final Examinations and Other Diagnostic Exercises**

At the beginning of each term, instructors will distribute a course syllabus that indicates the diagnostic exercises for that course. Such exercises may include announced and unannounced quizzes, examinations, papers, and oral presentations. Typically, courses terminate with a final examination given during the final exam period designated in the official schedule, although substitutions such as a final paper or presentation may exist.

Attendance at all scheduled and announced examinations is required. Unauthorized absence from an examination may result in a grade of F on the examination. Students who must, for whatever reason, be absent from a test or presentation may be required by the instructor to obtain an excuse in writing from the Office of Academic Affairs.

Any student with three or more final exams falling on the same day may approach his or her instructors to request an alternate exam time. Such requests should be submitted to the instructor in writing a minimum of one week prior to the scheduled exam time. Students who are unable to obtain an accommodation from their instructors may appeal to the Office of Academic Affairs for assistance.

**Withdrawing from a Course**

After the usual one week set aside for course changes during registration (add/drop period), students may officially withdraw from a course (excluding FYS) until 10 class days (two weeks) after midterm. Note that the class attendance policy is in effect until the student officially withdraws from the course. Course withdrawal requires the signatures of the instructor of the course and the
student's academic advisor. Students will be given the grade of W (withdrawal). Courses for which a student has received a grade of W do not count as completed courses, nor are these grades considered in determining a student's grade point average. If a student withdraws from a course that he or she is repeating (See Repeat of a Course), the original course grade will continue to be applied towards graduation requirements and the grade point average. Students may not withdraw from a course to avoid the penalties of a case of academic misconduct.

**Repeat of a Course**

Any course (except First Year Seminar) successfully completed at W&J may be repeated once. Successful completion implies a C- or better for all courses required for a major (unless otherwise stated by a department) and a D- or better for all other courses. The original course (and grade) and the repeat of the course (and grade) will appear on the student's transcript; however, only the second course (and grade) are counted towards graduation requirements and the grade point average. If a student withdraws from a course that he or she is repeating (See Withdrawing from a Course), the original course grade will continue to be applied towards graduation requirements and the grade point average. Courses successfully completed at W&J cannot subsequently be repeated at other institutions under this policy. Students may take any number of special topics courses with the same course number as long as the topics of the courses are different.

**Obtaining Course Credit from Other Colleges**

A currently enrolled W&J student, with approval of his or her major advisor and the registrar's office, may take courses at another college or university. Courses in which the student earns a grade of C- or better may be transferred to W&J, subject to existing regulations covering such courses. The student initiates the procedure by obtaining a course description from the other institution and presenting this to the relevant department chair at W&J. The registrar's office will provide further instructions and the appropriate course transfer form.

If you are an incoming transfer student, the registrar's office, in conjunction with the Office of Academic Affairs and department chairs, will provide the final determination of the course credit awarded from the courses you have completed prior to coming to W&J.

In any given summer, a W&J student may transfer to W&J up to two courses taken in another summer school program. These courses must be approved in advance according to the procedure described in the first paragraph in this section.

**Policy on Online Courses**

Students may transfer up to two courses taught entirely or substantially through indirect contact with an instructor (distance, online, blended/hybrid) toward fulfillment of W&J graduation requirements. As with all approved transfer courses, students will receive either general elective credit or, with the approval of the relevant department/program chair or academic dean, specific course equivalency. Students wishing to transfer such courses at W&J must:

- Follow all policies and procedures regarding transfer courses stated elsewhere in this catalog
- Submit an official transcript for the course from a fully accredited institution
- Complete a credit transfer form indicating the electronic method of delivery
- Provide a course description to the registrar

**Grading Policies**

- Grading System
- Satisfactory - Unsatisfactory Option
- Incomplete Grades and Grade Changes
- Student Grade Grievances
- Academic Sanctions
- Readmission After Academic Dismissal

**Grading System**

At the close of a session or upon completion of a class, the instructor reports a final grade indicating the quality of the student's work in the class. Grade reports are available after the close of each session via WebAdvisor, the College's online registration system. Official copies of grade reports and transcripts are available to you through the College registrar.

In addition to final term grades, midterm grades are reported to some students. All first-term, full-time freshmen receive midterm evaluations, as do students on academic probation or those whose work to date in the class would merit grades below C-. Midterm grades are available via WebAdvisor.
Grade-point values are assigned for each credit according to the grading system below.

<table>
<thead>
<tr>
<th>LETTER GRADE</th>
<th>POINT VALUE</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>A-</td>
<td>3.67</td>
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<tr>
<td>B+</td>
<td>3.33</td>
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<td>B</td>
<td>3.00</td>
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<td>B-</td>
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<td>C+</td>
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<td>D+</td>
<td>1.33</td>
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<td>D</td>
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<td>D-</td>
<td>.67</td>
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<tr>
<td>F</td>
<td>0.00 (No Credit Earned)</td>
</tr>
<tr>
<td>S, Satisfactory</td>
<td>Credit Earned</td>
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<tr>
<td>U, Unsatisfactory</td>
<td>No credit</td>
</tr>
<tr>
<td>W, course withdrawal</td>
<td>No credit</td>
</tr>
<tr>
<td>L, Audit</td>
<td>No credit</td>
</tr>
<tr>
<td>I, Incomplete</td>
<td>Credit awarded upon successful completion of the course</td>
</tr>
</tbody>
</table>

The basis for determining the student's overall scholastic standing is the grade point average. This average is determined by dividing the total number of grade points earned by the total number of courses attempted. For example, if the student earns a C (2.00) in each of two full courses, and a B (3.00) in each of two half-courses, first multiply the course units by the point value of the grade (grade of 2.00 X 1 course = 2.00 grade points and grade of 3.00 X ½ course = 1.5 grade points) and add the grade point values for each course together to find the total number of grade points (2+2+1.5+1.5=7). Then add the course units together to find the courses attempted (1+1+½ +½=3). Finally, divide the grade points by the courses attempted to find the grade point average (7 / 3 = 2.33, or C+ average). The grade point average is figured only on hours attempted - courses in which you receive letter grade (A through F). Grades of “Satisfactory” represent courses earned, but are not used in the calculation of the grade point average.
Satisfactory - Unsatisfactory Option

The satisfactory/unsatisfactory option is open to all students at the College. Between midterm and 10 class days (two weeks) after midterm, or during the second full week of Intersession, students may convert a course (excluding ENG 111, ENG 112, and First Year Seminar) from a graded to a satisfactory-unsatisfactory (S/U) basis. Students exercising this option many not subsequently withdraw from that course or convert it from S/U back to a graded basis.

A student taking a course graded S/U must do all the work normally assigned in the course. For example, he or she must take all tests and quizzes and must complete all papers. The student is also subject to the current College attendance requirements.

No more than two courses (excluding internships, PED, and MSC classes) may be taken on an S/U basis during a student's time at W&J.

Courses graded S/U will not count towards the fulfillment of a student's major or minor requirements. This applies to courses in the major or minor department, as well as those from other departments that are required by the major or minor.

Grading for S/U courses is governed by the following: A student earning a C or better will be considered to have earned a "satisfactory" grade. A student receiving an "unsatisfactory" grade will not receive credit for the course. Neither an S grade nor a U grade will affect the student's grade point average.

ROTC (MSC) and Physical education and wellness courses are offered on an S/U basis, unless specifically approved otherwise by the faculty.

Incomplete Grades and Grade Changes

Failure to satisfy minimal course requirements shall result in a grade of F, unless the Office of Academic Affairs approves a student's request for an incomplete grade, which must be submitted on a "Request for Incomplete" form, available from Academic Affairs. Generally, the granting of Incompletes is limited to students with family or medical emergencies that prevent them from completing a final paper or project or taking a final exam. They are not granted to students who are struggling in a course and want a little more time to complete their assignments. Unless an emergency makes it impossible for the student to do so, such requests must be submitted within two business days of the end of the final exam period. Incomplete courses must be completed, and the grade changed, by the date listed on the "Request for Incomplete" form and no later than the end of the fourth week of the succeeding session in which a student is enrolled (not to include Intersession or summer) or the grade of incomplete will automatically be converted to an F.

Student Grade Grievances

Any student wishing to dispute a final course grade should first contact the course instructor to resolve the grievance. It is the student's responsibility to review grades and initiate any grievance process as soon as final course grades are posted. If the grievance remains unresolved after discussion with the course instructor, the student may submit a written appeal to the Chair of the department under which the course is offered. This appeal must be submitted no later than the end of the first week of the succeeding session (not to include Intersession or summer). After departmental review, unresolved grievances may be further appealed to the Office of Academic Affairs for final consideration.

Academic Sanctions

Full-time students whose academic performance fails to meet acceptable standards will be issued a warning or placed on probation by the Academic Status Committee or, with the approval of the faculty, will be dismissed from the College. When students are placed on academic probation they must arrange an interview with a representative of the Office of Academic Affairs. The purpose of this interview will be to review their academic performance and establish a program for improvement. Students placed on academic probation are expected to remove their deficiencies at the earliest possible time. This can be accomplished only by means of improved grades. The staff will assist in designing individualized programs to improve the academic performance of students placed on academic probation. These programs may include time management, study skills, restricted activities, and personal conferences with academic advisors, deans, and members of the faculty. In addition, students on probation may not participate in co-curricular College activities, such as student government, intercollegiate athletics, and other clubs and organizations, while on probation without written permission from the Office of Academic Affairs. Students may be removed from probation only by the Academic Status Committee after the completion of a regular session or a summer session of full-time study at this College, as defined in the description of full-time status.

Rarely is a student permitted to remain on probation for more than one year. The Academic Status Committee reviews the record of every probationary student at the close of each session. Students who have improved their work to the satisfaction of the committee standards are removed from probation. Others, whose work shows no improvement, may be dismissed from the College. Students who are dismissed may appeal their dismissal in writing to the vice president of academic affairs within 10
business days of notification of dismissal. The vice president of academic affairs will make a recommendation to the president of the College, who will make a final decision on the appeal. Students may not attend classes at W&J while appealing their dismissal.

A student who is academically dismissed for a second time is ineligible to return to the College.

Readmission after Academic Dismissal

Students who are dismissed from the College must remain away from school for at least one full fall or spring term. After that period, students may petition the Academic Status Committee for permission to reapply. During their time away, dismissed students should engage in a course of activity, which may include attendance at another institution, intended to address the causes of their lack of academic success and to demonstrate their readiness to return to W&J. More information about readmission after academic dismissal may be obtained from the Office of Academic Affairs.

A student who is academically dismissed for a second time is ineligible to return to the College.

Academic Honesty Policy

- The Principle of Academic Honesty
- Violations of Academic Honesty (Academic Misconduct)
- Procedures for Cases of Academic Misconduct

The Principle of Academic Honesty

Washington & Jefferson College is a community dedicated to the intellectual and personal development of its students. Such development may be achieved in many ways, including creating original works of writing, art, and music; conducting research; engaging in discussions; taking examinations; and participation in co-curricular activities. Central to such developmental activities is that whatever a student represents as being the fruit of his or her own intellectual labor is indeed his or her own. Otherwise the student will not only have acted dishonestly, but will also have wasted the developmental opportunities afforded by the College.

W&J upholds academic honesty in the College community by pursuing cases of academic misconduct. When such academic misconduct is discovered, the College will ensure through the imposition of appropriate penalties that the student does not gain unfair advantage through his or her dishonesty, and will help the student address the concerns that led to the offense. If the nature of the intellectual dishonesty is determined to be conscious, calculated and/or intentional, or if academic misconduct recurs, the student may be judged to be incapable of benefiting to a satisfactory degree from the developmental opportunities afforded by the College, and may then be permanently dismissed so that the College's resources may be directed to deserving students.

Violations of Academic Honesty (Academic Misconduct)

The Washington & Jefferson College community requires its students to create and submit their own work in every setting at the College, including classes, laboratories, and co-curricular endeavors. A violation of this principle constitutes academic misconduct. Examples of academic misconduct include, but are not limited to:

- Plagiarism, which is representing the fruits of another's intellectual labor as one's own, whether this is done with the intention to deceive or is the result of incompetence. Examples include using someone else's ideas, research results, sentence structure, or phrasing without properly crediting the author, thus leading the reader to assume that they are the student's own creation. Note that quotation marks, in addition to appropriate citation, must always be used to signal the borrowing of another person's exact language.

- Fabricating material and representing it as genuine. This includes falsifying research results for a laboratory report or falsifying information for a written essay.

- Misrepresenting one's contributions to a group project. Examples include having one's name on a project to which one did not contribute in a meaningful manner, or providing grossly inaccurate assessment of one's own or a teammate's contributions.

- Submitting papers or other academic work in two different classes or other academic setting without full knowledge of the instructors involved and written permission from both instructors. When an assignment asks for original work, the presumption is that the work has not been submitted in a different class or another academic setting.

- Knowingly giving or receiving unauthorized aid on a piece of academic work (including tests, papers, research, artwork, etc.). For example, a person knowingly giving answers to another person during a test is as guilty of academic misconduct as the person receiving the answers.

- Misconduct in a testing situation, including copying answers from another student's test, using electronic devices or other unauthorized sources of information during a test, or illicitly collaborating on tests taken outside of the classroom.

Students are responsible for adhering to academic honesty policies specific to each of their classes. Such policies are in addition to the College's general policy, and are communicated by the instructor.
Procedures for Cases of Academic Misconduct

If a course instructor suspects that a student has committed plagiarism or another form of academic misconduct, the instructor must first notify the student or students involved. If the academic misconduct has taken place outside of a classroom setting, the supervising person responsible should contact the Office of Academic Affairs for advice on how to proceed.

If a course instructor believes that the case of academic misconduct is minor (for example, the student may simply have misunderstood how to cite a source), the instructor is not required to impose a specific penalty on the student, and the case need not be reported to academic affairs.

If a course instructor believes that the student is guilty of intentional or major academic misconduct, the instructor may give the student an "F" for the course, or impose other penalties consistent with the instructor's academic honesty policy. The instructor must send written documentation of the violation and the penalty to the student and to the vice president of academic affairs, or another representative of the Office of Academic Affairs, who will keep a record of the offense. The Office of Academic Affairs will send a letter to the student and to the faculty member indicating that a charge of academic misconduct has been received, affirming the penalty imposed by the faculty member, and informing the student of the appeal process. If the Office of Academic Affairs has a record of previous academic misconduct, or if a single infraction is judged to be sufficiently serious, the Office of Academic Affairs may impose an additional penalty, up to and including dismissal from the College. The letter to the student will include a description of this additional penalty and a rationale for imposing that penalty.

Students found to have committed academic misconduct are required to meet with the Assistant Dean of Academic Advising within a period specified in the misconduct letter from Academic Affairs. Failure to meet this requirement will cause the student to be placed on academic probation.

A student contesting the decision of the faculty member or the Office of Academic Affairs has the right to appeal in writing to the Academic Status Committee within 10 business days of the date of the letter from the Office of Academic Affairs. The Academic Status Committee will review the student's appeal, and if needed, contact the student, faculty member, the Office of Academic Affairs, and any other parties that may be involved, for further information. The decision of the Academic Status Committee will be sent in written form to the Office of Academic Affairs, to the student, and to the faculty member, along with a recommendation for action to be taken by the Office of Academic Affairs.

Students who intend to appeal a charge of academic misconduct should notify their instructor of that intent in writing; such students have the right to continue to attend class until the appeal process has concluded.

A faculty member who serves as an independent resource for students is available for consultation on issues of academic misconduct.

Leaving the College

Contents

- Graduation Procedures
- Voluntary Leave or Withdrawal and Return to School
- Right of Petition
- Posthumous Degrees
- Sunset Policy

Graduation Procedures

Students who plan to graduate must file an application for graduation during the first term of their senior year. Forms are available on the registrar's office website. Only those who have no academic or financial obligation to the College are permitted to participate in graduation ceremonies, including Baccalaureate and Commencement. This means that all degree requirements must be completed by the end of the spring of the senior year, and that the student's account is in good standing with the Business Office.

Voluntary Leave or Withdrawal and Return to School

In order to withdraw from the College or pursue a temporary leave of absence, students must consult in person with the Office of Student Life. In either case, official action cannot be taken until the student files an official written statement of leave/withdrawal.

Right of Petition
Students have the right to petition any faculty committee regarding a waiver of academic rules and regulations. Petitions should be submitted to the Office of Academic Affairs.

Posthumous Degrees

In certain rare instances, Washington & Jefferson College may award honorary undergraduate degrees posthumously. In such cases, students who, at the time of their death, were enrolled at the college, were in good standing (a cumulative GPA of 2.00 or higher), and had earned a minimum of 75% of the credits toward their bachelor’s degree may be eligible to receive a posthumous degree. Such a degree is granted by a vote of the full faculty after a recommendation from the Academic Status Committee.

Sunset Policy

Students are expected to complete their degree requirements within ten years of matriculation at W&J. If ten years or more have elapsed since matriculation, a returning student will be required to meet current graduation and program requirements (general education, major, minor, etc.). For both returning W&J students and new transfer students, any coursework that is older than ten years must be reviewed for currency in order to be counted toward a W&J degree.

Academic Honors and Prizes

Contents

- Dean's List
- Alpha and Beta Scholars
- Graduation with Latin Honors
- Graduation with Honors in an Academic Major
- Honorary and Departmental Societies
- Academic Prizes
- Endowed Prizes
- Special Prizes and Awards
- Phi Beta Kappa

Dean's List

Each session, the Office of Academic Affairs compiles a list of full-time students whose grade point averages for the previous session were 3.50 or higher, based upon a minimum of three courses exclusive of those taken satisfactory/unsatisfactory. Courses taken S/U must be passed.

Alpha and Beta Scholars

At the end of each academic year, students (except graduating seniors) who have attained a cumulative grade point average of 3.85 or higher are designated as Alpha Scholars. Students attaining a cumulative grade point average of 3.70 or higher, but less than 3.85, are designated Beta Scholars. To achieve Alpha or Beta status, students must have taken a minimum of seven graded courses at W&J or in a program run by W&J (in which case letter grades transfer) during the year. Students who satisfactorily complete an off-campus study program or full-time internship may reduce the number of graded courses at W&J required for eligibility by four courses for each full semester spent off campus during the year. Alpha/Beta Scholar status is noted on the student transcript and recognized at a suitable College occasion.

Graduation with Latin Honors

The rank of a student at graduation will be determined wholly by the work done while at Washington & Jefferson College. In order to be eligible for the ranks of summa cum laude, magna cum laude, or cum laude, a student must have completed at least four 14-week terms of four-day classes each plus two Intersessions.

Eligible students whose grade point average for their full course is not less than 3.85 will be graduated summa cum laude; those whose grade point average is less than 3.85, but not less than 3.70, will be graduated magna cum laude; those whose grade point average is less than 3.70, but not less than 3.50, will be graduated cum laude.

Graduation with Honors in an Academic Major
To achieve honors, a student must display academic excellence beyond the classroom by successfully completing a substantial research or creative project, beyond regular classwork, in any area of study offered by the College. A project worthy of honors should be well researched and well crafted and should make an identifiable contribution to its field; these standards will be determined and verified by faculty in the project's area of study. In addition, the student should be able to communicate, by written and oral means, the details, rationale, and value of the project to specialists and non-specialists alike. Consequently, students awarded honors at W&J fulfill in a highly advanced way the goals of the College's liberal arts mission.

To qualify for honors, students should have an overall grade point average of 3.20 or above. Students may work for honors in either the junior or senior years. Students interested in pursuing honors should discuss potential projects with their chosen faculty directors no later than the spring proceeding the academic year in which they will file for honors. In the following fall, students working toward honors will file an "Intent to Complete an Honors Project" form with the Academic Status Committee, which will review all proposals. Once the honors project is complete, the student's work will be judged by faculty in the area of study; the student's effectiveness of communication to a college-wide audience will be judged by faculty both inside and outside the area of study. Successful completion of these requirements will earn the student honors, to be awarded by the College in the student's area of study.

Complete procedures for graduation with honors may be obtained from the Office of Academic Affairs or from the College's Web site. The student should consult with the chair or program director in the area of study concerning the criteria for honors-level work.

Honorary and Departmental Societies

A number of honorary and departmental societies have chapters at W&J. These include Phi Beta Kappa, which has been active on campus since 1937, and the following: Alpha Kappa Delta (sociology); Alpha Lambda Delta (first-year students); Alpha Psi Omega (theatre); Student Affiliates of American Chemical Society (SAACS); Gamma Sigma Alpha (Greek academic); Delta Omicron (music); Delta Phi Alpha (German); Delta Sigma Pi (business); Gamma Sigma Epsilon (chemistry); Kappa Delta Epsilon (education); Omicron Delta Epsilon (economics); Pi Gamma Mu (social sciences); Pi Mu Epsilon (mathematics); Student Pennsylvania State Education Association; Phi Alpha Theta (history); Phi Sigma (biology); Pi Delta Phi (French); Phi Sigma Alpha (political science); Pre-Legal Society; Pre-Health Professions Society; Psychology Club; Sigma Delta Pi (Spanish); Sigma Lota Rho (international studies); Phi Sigma Tau (philosophy); Sigma Tau Delta (English); Psi Chi (psychology); Sigma Pi Sigma (physics); and Order of Omega (Greek leadership).

Academic Prizes

Certain academic departments annually award scholarship prizes to the highest and, in some cases, second highest upperclassmen in those departments. Candidates must have completed at least four sessions and two Intersessions at Washington & Jefferson College, with a cumulative grade point average of at least 2.33. Within the department concerned, candidates must have completed no less than three sessions beyond the introductory course with an overall grade point average of 3.33 or higher in all courses.

Prizes are well-bound books selected jointly by the recipient and the chair of the department. The books are stamped with the College seal and accompanied by a special citation.

The prizes are:

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<tr>
<th>Subject</th>
<th>Prize Name</th>
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<tbody>
<tr>
<td>Art</td>
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<tr>
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<td>Biology</td>
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<td>Chemistry</td>
<td>Jesse W. Lazear Prizes</td>
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<td>Economics</td>
<td>Benjamin Franklin Prize</td>
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<td>Henry Willson Temple Prizes</td>
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<td>Computing and Information</td>
<td>The CIS Award for Independent Learning</td>
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<tr>
<td>Languages</td>
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<td>Theatre</td>
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<td>Jennifer Lynn Oliver Prize in Theatre</td>
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**Endowed Prizes**

*The following prizes have been established by endowments from private donors:*

**Emily M. Auld Memorial Prize in English** - Awarded annually to a junior majoring in English who has achieved a high level of performance and demonstrates great promise for the future. Established by Frank L. Auld ’35 in memory of his wife, Emily, a former senior English teacher at Trinity High School.

**Friedrich R. Crupe Prize in International Relations** - This award is supported by an annual gift from Friedrich R. Crupe to encourage the study of foreign language and international trade. A prize is awarded each year to a member of the senior class who has excelled in the study of international trade and foreign language. Students are evaluated for their performance in two areas: academic achievement and an essay that integrates some aspect of foreign language or culture and international economics or business.

**Charles P. Eaton Prize for Entrepreneurial Studies** - Established in 2004, in honor of Charles P. Eaton ’64 by his coworkers at C.P. Eaton & Associates, Inc., this academic prize is given to a student who exhibits innovative and rigorous studies within the Entrepreneurial Studies Program.

**Thomas V. Fritz Memorial Prize** - This endowed prize fund has been created to annually offset the cost of internships or related travel opportunities at prominent organizations, corporations or government entities as determined by the chair of the Political Science Department or another W&J representative mutually agreed upon by the College and the donor. Preference will be given to junior political science or pre-law students with financial need. If the donor is unable to assist in the selection of the W&J representative, the existing chair of the Political Science Department will represent the College.

**The Dr. Mariano Garcia ’39 Award in Mathematics** - Established in 2005 by an endowment from Dr. Mariano Garcia ‘39, the annual award is given to one or more students to celebrate academic excellence in the study of mathematics. Annually, the mathematics department faculty will select one or two award recipients who have excelled in mathematics with preference given to an outstanding senior, a promising junior or sophomore, or both. Recipients may or may not be mathematics majors or minors.
**Gilbert Award in Old English Literature** - Provided by the will of Howard Worcester Gilbert, which offers an award for the best essay on Old English language and literature, beginning with Beowulf and extending to the year of 1060. The essay is to consist of either a general survey of the literature of the period or of a treatise on any author of that period.

**Robert Harbison Bible Prize** - Established by the will of Robert Harbison of Beaver County, Pennsylvania, the prize is awarded to the member of the senior class who passes the best examination on the Old and New Testaments.

**Samuel Jones Classical Prize** - Competition for this annual prize is open to members of the junior or senior class for significant independent research in an area of classical interest.

**Samuel Jones Prize in Chemistry and Physics** - This prize is alternated yearly between the departments of chemistry and physics. It is awarded to a member of the junior or senior class who writes the best essay on a specific topic or attains the highest score on a departmental examination.

**Josephine Markley Prize in Physics** - Offered each year. Students in introductory physics courses are eligible to take an examination, with the prize going to the student achieving the highest examination score.


**M. Elizabeth McBurney Scholarship Prize** - Created by a bequest from M. Elizabeth McBurney in 1987 with awards made annually to an upperclassman that has achieved high scholarship in history and demonstrates need. Preference will be given to descendants of former students of the Washington Seminary and in keeping with College scholarship policy.

**A. Richard Oliver Prize in French** - Established by students, friends, and colleagues of Dr. A. Richard Oliver, professor of French from 1947 until his death in 1976. Income from this fund is used annually for a book prize awarded to an outstanding student in French. If a student of French is not available to receive the prize, it will be awarded to a student in another foreign language.

**Jennifer Lynn Oliver Prize in Theatre** - Established by an endowment from Ms. Oliver’s mother and stepfather, Page and Ray Bruno, other family, and friends, this prize is awarded annually to the graduating senior theatre major achieving the highest cumulative grade point average during his/her tenure at the College. The prize is given in memory of Jennifer Lynn Oliver ’00, a gifted actress and scholar who made many noteworthy contributions to theatre and intellectual life at W&J.

**The Richard S. Pett Academic Travel Award** - Established in memory of Richard S. Pett by his wife, Lynne, and his daughters, Melissa and Lauren, the Academic Travel Award goes to a deserving junior or senior majoring in a foreign language who desires to study abroad.

**The Michael P. Rettger Memorial Academic Award** - This multi-year academic award goes to a promising sophomore or junior majoring in accounting who desires to begin his/her career with a public accounting firm. Established in memory of Michael P. Rettger ’01 by his friends and co-workers at Ernst & Young LLP in Pittsburgh, the award is given to honor the memory of Mike Rettger, a bright young business man who died from a sudden illness in 2003.

**Matthew Brown Ringland Prizes in the Social Sciences** - The will of Josiah Ringland of Washington, Pennsylvania, bequeathed a sum to the College for the purpose of establishing a prize in the social sciences. Income from this sum is awarded annually by the faculty to two students who do the most outstanding work in “commerce, trade, finance, statesmanship, and international law.”

**The William M. and Saundra Stout Endowed Prize Fund in Education** – provide a prize fund to students who are rising Juniors or Seniors and who are either majoring in Child Development and Education or who have been admitted to the Teacher Certification Program at Washington & Jefferson College. The donors express a preference for students who graduated from a high school in Washington, Fayette, or Greene Counties in Pennsylvania and who have achieved a cumulative GPA of at least 3.0 or higher.

**Alfred Henry Sweet Prize in History** - Income from a fund given by students, friends, and colleagues of Dr. Alfred Henry Sweet creates a prize that is awarded annually to a student who has done the most competent piece of research in the field of history.

**Nicholas C. and Josephine C. Tucci Memorial Prize in Chemistry** - Awarded annually to a junior chemistry major who has demonstrated outstanding achievement and financial need. Established in memory of Nicholas C. and Josephine C. Tucci, community leaders and friends of W&J.

**Nicholas C. and Josephine C. Tucci Music Prize** - Awarded annually to a deserving student for the study of music during Intersession. A committee, named by the College, will select the winner based upon academic performance and interest and promise in music. Established by Josephine C. Tucci in memory of her late husband, Nicholas C. Tucci, community leader and friend of the College.
Special Prizes and Awards

The Alumni Prize for Original Research in the Life Sciences - This annual award was established by Bruce H. Wainer ’69 to recognize one undergraduate original research project in the field of biology or psychology.

Birch Scholarship Award - Presented annually to an outstanding athlete who has won at least two letters in the same or various sports and has achieved an academic standing of graduation with distinction. Donated in 1938 by James M. Wray, it honors his mother, Harriet J. Birch, whose six brothers all were W&J graduates.

Barbara Ranshoff Burnett Prize in Music - Established in 1991 by former College President Howard J. Burnett in memory of his wife, Barbara Ranshoff Burnett, this prize recognizes an outstanding student in music, whose participation either in performing ensembles or classroom studies demonstrates high achievement, active interest, and strong commitment to the standards of excellence set by the Department of Music. The award is given in honor of Mrs. Burnett, a devoted member of the College and community, who nurtured support of the fine and performing arts at Washington & Jefferson College.

The Robert L. Ceisler ’40 Pre-Law English Award - Established by Mr. and Mrs. Ceisler to honor and encourage a pre-law student and a member of the junior class who has excelled in clear, concise writing. In selecting the recipient, preference is to be given to students who are currently or have in the past been involved in the study of Judaism or Jewish heritage.

The Coblentz-Silliman Leadership Prize - This award is derived jointly from an endowment by Mr. and Mrs. George W. Coblentz in memory of their son, and from a similar fund provided by the Board of Christian Education of the Presbyterian Church in the U.S.A. It is presented annually to a student, selected by the College officers, who has been a leader in College activities, a good student, and who has exerted a distinct Christian influence on classmates.
Donald W. Ebbert Award - Given each year in memory of Donald Ward Ebbert of the Class of 1928 to the student completing the junior year whose effort and determination to achieve in academics, athletics, or other school activities have gained the respect, admiration and friendship of students and faculty alike.

Environmental Studies Grant - The grant funds original student projects/experiences of 1-3 months’ duration designed to promote environmental conservation/sustainability anywhere in the world. The broadest definition of “environment” is applied to include natural and human-built ecosystems to include natural/social science approaches when dealing with natural and/or human built ecosystems.

Environmental Studies Prize - The Environmental Studies Prize has been made possible through a generous grant from the Margaret A. Cargill Foundation to the Environmental Studies Program. Awardees must have at least a 3.4 cumulative GPA, be in good standing with the College, and must have though a combination of coursework, course-related projects, extracurricular activities, and independent research projects demonstrated excellence in whatever facet of Environmental Studies they are pursuing.

The Frederick J. Frank Leadership Award - Endowed in honor of Dr. Frederick J. Frank, who served W&J for 38 years (1947-1985) as faculty member, director of admission, and dean, the prize is awarded to an upperclass student whose leadership has benefited either W&J, the city of Washington, or the student’s home community. The award criteria are leadership, campus involvement, and community service.

Franklin Internship Award - Presented annually as part of the Magellan Project, this award provides W&J-based support for sophomore-level and above students who wish to pursue once-in-a-lifetime internship opportunities.

The James W. Gargano Memorial Award - Presented annually for the best essay by a senior English major, the winner to be determined by members of the English department from among essays submitted by professors of that year’s departmental seminars. The award commemorates the devotion to scholarship of James W. Gargano, an outstanding scholar of American literature and former chairman of the English department.

Geary Award - Presented annually as part of the Magellan Project, this award provides W&J-based support for freshmen who wish to pursue unique, self-designed summer projects.

The James W. Hanna Prize in Education - Established in 1996 by Dr. Hanna’s sister, Ms. Linda Hanna Weaver, and by students, colleagues, and friends, the prize is awarded annually to an outstanding education student to encourage the successful completion of teacher certification. Preference in selection is given initially to graduates of Washington High School. If no such student is qualified, graduates from other high schools may be considered. Financial need shall be considered only between candidates of equal ability and character. The prize winner is selected by the president of the College, the dean of the faculty, and the chair of the education department.

Vira I. Heinz Program for Women in Global Leadership - Established through an annual grant by Mrs. Clifford S. Heinz of Pittsburgh, this award makes it possible for a woman member of the sophomore or junior class to study abroad during the summer, and to participate in leadership-development activities. Participants are selected by a committee, based on students’ written applications and a short interview. Women who have never before traveled abroad, and who have overall grade point average of 3.0 or above, are eligible to apply.

The Elizabeth A. Holmes ’97 Music Prize - Presented annually to enhance the music opportunities and experiences of a junior or senior student who is active in the Wind Ensemble, Choir, or Chamber Singers and has a demonstrated interest in music.

The Dudley R. Johnson Prize in the Theater Arts - Established by friends and colleagues of Dudley R. Johnson, dean of students at W&J from 1951 to 1967, and awarded annually to a graduating senior who, during his or her years at the College, has made the most significant contribution to the theatre arts.

Kelso Award - Presented annually as part of the Magellan Project, this award provides W&J-based support for juniors who wish to pursue unique, self-designed summer projects.

Pete Kimmel Prize - Through a fund established by a donation of Mr. and Mrs. C. R. Kimmel in memory of their son, Robert C. (Pete) Kimmel ’66, who was the first W&J graduate to die in Vietnam, an annual Pete Kimmel Award is provided to the outstanding member of the W&J track squad.

The Daniel Latchney Prize in Chemistry - Presented annually to an outstanding junior or senior chemistry major and awarded by the Committee on Health Professions to a student registered in the Pre-Health Program. The student must exhibit distinguished academic achievement and good character. This prize was created in memory of this member of the Class of 1978 by his wife, Lisa ’78, and his daughters, Jessica and Sarah.

Legacy of Leadership – Given by Vice President and Dean of Student Life Byron McCrae. The honoree’s name is engraved on a plaque and announced at Commencement to recognize a graduating student who has made remarkable and substantial contributions to campus and community life, demonstrated true service to others, embraced challenges and taken risks to learn
and grow, and modeled both school pride and personal humility, and done all of this while achieving academic success.

**The Richard R. Martin Prize in Psychology** - Given annually to an outstanding student majoring in psychology. This award was established in 2002 by faculty members in psychology who worked closely with Richard R. Martin in appreciation of his leadership as chair of the department.

**Adlai E. Michaels Prize** - This prize is awarded to an outstanding sophomore chemistry major selected by the chemistry department in honor of Dr. Adlai E. Michaels, professor of chemistry at W&J from 1959 to 1983.

**Michael Missentgis Athletic Memorial Award** - In memory of their son, Mike Missentgis, a member of the Class of 1973 and of the football team, Mr. and Mrs. James Missentgis of Jersey City, New Jersey, presented to Washington & Jefferson College a monetary gift. Income from this gift will be used for a plaque to be presented to the outstanding freshman football player.

**The Patterson, Atchison, Shaub, Dorwart, and Thomas Mathematics Award** - Established by former students in memory of these W&J mathematics professors. The award is to encourage students to pursue projects in which they investigate the application of mathematics to a problem in one of the sciences, business, economics, industry, government, or other discipline. Interested students or faculty from any major should contact the chairman of the mathematics department.

**Paul L. Reardon Award** - Presented annually to the junior athlete who demonstrates academic, athletic, and leadership qualities.

**The James Rule 1898, Howard Hughes '11, and Robert Murphy '06 Fund** - A fund in honor of James Rule, Howard Hughes, and Robert Murphy was established by an anonymous donor. Income from the fund is to be used to award a prize of at least $2,000 each year at Thanksgiving time to a student in the sophomore year at the College to be selected by the president of the College.

**Walter S. Sanderlin Prize in History** - This prize was established by Robert A. Johnson, Esq. '66, to honor Dr. Walter S. Sanderlin who served as a member and chairman of the history department at W&J from 1946 to 1985. The prize is a monetary award given to a senior history major with a cumulative average among the top 10 percent of history majors and among the top 10 percent of the senior class, who has been accepted into graduate school in any discipline of the humanities or social sciences.

**The David K. Scarborough Leadership Award** - Awarded annually at Honors Day to a junior class member as selected by the president of the College. A tuition prize and plaque recognize the recipient’s service to the College community, individual leadership, and academic achievement. David K. Scarborough served Washington & Jefferson College from 1956 to 1992 as basketball coach and then administrator, retiring as vice president and dean of student affairs. This fund is provided by alumni and associates of Dr. Scarborough to honor his leadership by example, devotion to development of the whole student, and dedication to Washington & Jefferson College.

**Walker Award** - Presented annually as part of the Magellan Project, this award provides W&J-based support for sophomores who wish to pursue unique, self-designed summer projects.

**Phi Beta Kappa**

Kappa of Pennsylvania (est. 1937) is the local chapter of Phi Beta Kappa, a national society honoring students for academic excellence in the liberal arts and sciences. Although important, a high grade point average does not by itself guarantee membership: to be eligible for election, candidates must have taken at least three quarters of the courses required for their degree in the liberal arts. New members are elected by resident members at the College by secret ballot. Guided by individual judgment, they evaluate candidates according to the following criteria: intellectual curiosity and growth, good character, a love of learning for its own sake, and distinguished academic achievement in a challenging selection of courses. Phi Beta Kappa is an independent organization with a self-perpetuating membership; it is not an agency of Washington & Jefferson College.

**Admission**

Office of Admission  
Washington & Jefferson College  
60 South Lincoln Street  
Washington, PA 15301  
724-223-6025 (p)  
724-223-6534 (f)  
admission@washjeff.edu

Washington & Jefferson College is a member of the National Association of College Admission Counselors and abides by its Statement of Admission Practices and Procedures. The College admits students regardless of race, color, sex, sexual orientation, religion, age, disability, national origin, or any other legally protected status.
Admission Plan

Early Decision

The early decision application is for those students who have determined W&J to be their first choice college. A completed application for admission, along with the Early Decision Request Form, must be submitted to the Office of Admission by December 1 of the senior year. Candidates will be notified of the status of their application by December 15. Each student accepted under this plan will be required to submit an advance deposit of $200 by January 15. This deposit is nonrefundable and will be credited to the first-term billing. If accepted under the Early Decision Plan, the student agrees to withdraw all applications to other colleges.

Early Action

The early action application deadline permits those students who have submitted a completed application by January 15 to be notified prior to the regular decision deadline. Unlike early decision, early action is nonbinding, and the regular application procedure is followed.

Early Admission

The Early Admission Plan is for those high school juniors who possess high academic credentials and desire to enter college one year early. Evaluation of the candidate's academic and social maturity is based on the following:

- Student must submit parents' written approval.
- Student must submit written approval and a recommendation from his/her high school principal.
- A personal interview will be held with a member of the Office of Admission.
- Records of application, College Board scores, and other data will constitute a complete file, whether full- or part-time student.
- Preference will be given to academically high-ranking students.
- It is the responsibility of the student to secure a high school diploma upon completion of the first year of college.

Regular Decision

The regular decision application is for students who wish to apply to W&J by the application deadline of March 1. Regular decision is a nonbinding application, and regular decision applicants will have an admission decision by April 1. However, if the student would like to submit a nonbinding application prior to the March 1 deadline, the College recommends that he or she consider the Early Action Plan.

Admission Decisions

Please refer to the timetable located within this section for the various notification dates. A decision is made after receipt of the application, official high school transcript, standardized test results, letter of recommendation, activities list, and personal statement. Accepted applicants are asked to confirm their intent to enroll by submitting an advance deposit of $200 accompanied by the Admission Reply Form no later than May 1. This nonrefundable deposit is credited toward the first-term billing.

Admission Requirements

Each applicant is required to present a minimum of 15 academic units in the following distribution:

- three units of academic English;
- three units of academic mathematics (Algebra I, Geometry, Algebra II);
- two units of the same foreign language;
- one unit of history, social studies, or natural science;
- and six more academic units from the above areas.
  (Most applicants have more than the minimum academic units)

When considering an applicant for admission, primary emphasis is placed upon the academic record and rigor of curriculum, followed by the highest available standardized test scores (unless applying Score-Optional).

Application Procedures

Application materials are available through the Office of Admission or at www.washjeff.edu/admission or www.commonapp.org. To be considered for admission, applicants are asked to submit the following materials:
Credit for Advanced Placement (AP) Courses

Students who take Advanced Placement (AP) exams should request that their scores be sent to the College in care of the Office of the Registrar. A minimum score of 4 is necessary for any consideration of credit or placement to be given. If approved by the appropriate academic departmental chairperson and vice president for academic affairs, credit and/or advanced placement toward graduation will be awarded.

**AP Credit Policies by Subject/Department**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td>N/A</td>
</tr>
<tr>
<td>Arabic</td>
<td>N/A</td>
</tr>
<tr>
<td>Art and Art History</td>
<td>The Art Department does not accept any AP Art History or AP Studio Art credits. If a student has received a 4 or 5 on an AP Studio Art evaluation, he or she may present a portfolio of work to the department chair for consideration to waive certain pre-requisites for course work in the Art Department.</td>
</tr>
<tr>
<td>Biochemistry</td>
<td>N/A</td>
</tr>
<tr>
<td>Biology</td>
<td>Credit for BIO 100 will be given for 5 on the AP Biology test. Students who earn an A- in BIO 101 and who had a 5 on the AP Biology test may choose not to take BIO 102 but may replace it with another 200-level biology course. Permission of the department chair is required.</td>
</tr>
<tr>
<td>Business Administration</td>
<td>N/A</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Students scoring a 4 or 5 on the AP Chemistry test will receive credit for CHM 100.</td>
</tr>
<tr>
<td>Chinese</td>
<td>Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.</td>
</tr>
<tr>
<td>Communication Arts</td>
<td>N/A</td>
</tr>
<tr>
<td>Computing and Information Studies</td>
<td>Students scoring a 4 or 5 on the Computer Science A or AB test will receive credit for CIS 102 upon successful completion of CIS 221.</td>
</tr>
<tr>
<td>Earth and Space Science</td>
<td>N/A</td>
</tr>
<tr>
<td>Economics</td>
<td>Students scoring a 5 on ECON-Macroeconomics AP test will receive credit for ECN 102. Students scoring a 4 on ECON-Macroeconomics AP test will receive credit for ECN 102 upon successful completion of ECN-202. The Prerequisite for ECN-202 is waived. Students scoring a 5 on ECON-Microeconomics AP test will receive credit for ECN 101. Students scoring a 4 on ECON-Microeconomics AP test will receive credit for ECN 101 upon successful completion of ECN-201. The Prerequisite for ECN-201 is waived.</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>N/A</td>
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<tr>
<td><strong>English</strong></td>
<td>Students who earn a score of 4 or 5 on the College Board’s test in English language and composition receive credit for ENG 111; students who earn a score of 4 or 5 on the test in English literature receive credit for ENG 190 (but not HUM designation).</td>
</tr>
<tr>
<td><strong>Entrepreneurial Studies</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Environmental Studies</strong></td>
<td>Students scoring a 5 on the Environmental Science AP test receive credit for EVS 101. Students earning a 4 receive credit for an elective (EVS 100) from the approved list of “Natural Science” electives. They will still have to take one more elective from Humanities OR Arts and one from Social Sciences.</td>
</tr>
<tr>
<td><strong>French</strong></td>
<td>Students scoring a 4 or 5 on the French language AP exam receive credit for 207AP in that language.</td>
</tr>
<tr>
<td><strong>Gender and Women’s Studies</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>German</strong></td>
<td>Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.</td>
</tr>
<tr>
<td><strong>History</strong></td>
<td>Students scoring a 5 on the American History AP test will receive credit for one of the following: HIS 201, HIS 204, HIS 206. (Students can choose which course they want credit for.) Students scoring a 4 on the American History AP test will receive credit for one of the courses listed above upon successful completion of a 200-level history course at W&amp;J with a grade of “B” or better. Students scoring a 5 on the European History AP test receive credit for HIS-102 and are advised to take a 200-level course as their first history course at W&amp;J. Students scoring a 4 on the European History AP test receive credit for HIS-102 upon successful completion of a 200-level history course at W&amp;J with a grade of “B” or better.</td>
</tr>
<tr>
<td><strong>International Studies</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Japanese</strong></td>
<td>Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.</td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td>Students with AP Calculus score of 4 or 5 may transfer credit in for MTH 151. Students with a score of 4 may elect not to transfer AP credit and in favor of repeating Calculus I by enrolling in MTH 151. However, such students may not transfer AP Calculus in for ELE 100 and then repeat MTH 151. Students with AP Calculus credit will not receive NSM breadth of study credit but will receive Q credit. Students with AP Calculus score below 4 will not get credit for ELE 100 nor MTH 111. Students with AP Calculus score 5 on the BC test may get credit for MTH 152 with Q credit but not NSM. Students who receive AP credit for MTH 151 may not take MTH 131. Students may elect not to transfer BC credit for Calculus II and repeat the material by enrolling in MTH 152. If AP credit is given for BC then student may proceed to MTH 208. Students with an AP Statistics score of 4 or 5 will receive credit for MTH 225.</td>
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<tr>
<td><strong>Mind, Brain, and Behavior</strong></td>
<td>N/A</td>
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<tr>
<td><strong>Music</strong></td>
<td>Students scoring 4 or 5 on the Music Theory AP exam receive credit for MUS-204. A Music Aural or Non-Aural Subscore as low as 3 is acceptable for MUS-204 as long as the overall Music Theory exam score is a 4 or 5.</td>
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<tr>
<td><strong>Neuroscience</strong></td>
<td>N/A</td>
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<tr>
<td><strong>Philosophy</strong></td>
<td>N/A</td>
</tr>
<tr>
<td>Subject</td>
<td>Credit Information</td>
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<tr>
<td>Physics</td>
<td>Students scoring a 5 on PHYSICS B AP test receive credit for PHY-101. Students scoring a 5 on PHYSICS C-MECH AP test receive credit for PHY 107. The Physics department recommends that students who are exempted from either PHY 101 or PHY 107 take another course in physics or another of the sciences during their first semester at W&amp;J. Pre-health and pre-engineering students are advised not to take advanced placement credit in physics.</td>
</tr>
<tr>
<td>Political Science</td>
<td>Students scoring a 4 or 5 on the Comparative Government and Politics AP test receive credit for a POL elective course (POL 100AP). Students scoring a 5 on the U.S. Government and Politics AP test receive credit for POL 111. Students scoring a 4 on the U.S. Government and Politics AP test receive credit for a POL elective course (POL 100AP).</td>
</tr>
<tr>
<td>Psychology</td>
<td>Students scoring a 5 on the Psychology Advanced Placement Test will receive credit for PSY 102 and will begin their study of psychology at W&amp;J with PSY 101.</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>N/A</td>
</tr>
<tr>
<td>Russian</td>
<td>N/A</td>
</tr>
<tr>
<td>Sociology</td>
<td>N/A</td>
</tr>
<tr>
<td>Spanish</td>
<td>Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.</td>
</tr>
<tr>
<td>Theatre</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Credit for College Courses Taken in High School**

Students who have taken courses during high school for college credit should request that an official transcript be sent to the College in care of the Office of the Registrar. The registrar will determine the applicability of these courses to W&J course requirements, with the approval of the vice president of academic affairs.

**Deferred Admission**

Those students who desire to defer their admission to pursue nonacademic experiences such as employment, community service, or travel may secure deferred admission to W&J. The regular application procedure is followed. Upon notification of acceptance, the student should submit the advance deposit of $200 along with the Admission Reply Form, indicating a preference for deferred admission. W&J will then reserve a place for the student to enter the following year.

**International Baccalaureate**

Washington & Jefferson College values the International Baccalaureate (IB) Diploma and Certificate and their engaging and challenging curriculum that encourages critical thinking, intercultural understanding and respect. W&J recognizes IB achievement by awarding course credit toward graduation.

Course credit will be granted for each higher level (HL) IB course with an exam score of 5 or higher. A department chair, program director or academic dean will determine whether a course counts as an elective or toward a specific requirement (minor, major or general education).

Students who have completed the entire IB Diploma Programme can earn credit for up to 8 courses toward graduation at W&J.

The official International Baccalaureate transcript is required to award credit.

**International Students**

Washington & Jefferson College welcomes applications from international students. To apply, a student must send the following application materials to the Office of Admission: a completed application form, an official transcript in English of your marks/grades for all of your years of high school, a personal statement/essay, letters of recommendation, and SAT I scores, ACT scores, or an interview if applying Score-Optional, certification of finances and supporting documentation, and a $25 nonrefundable application fee in U.S. currency. The application fee is waived for students who apply online or visit campus. For
students whose native language is not English, the College reserves the right to require results from the Test of English as a Foreign Language (TOEFL) or IELTS.

Other components of a student’s application, including diplomas, National Exam results, the General Certificate of Education (G.C.E.), ordinary and advanced-level coursework, IB diploma results, and personal recommendations will also be considered. It is not necessary to send copies of certificates related to extracurricular achievements.

International students are eligible to receive institutional merit-based scholarships, but must be prepared to meet all college expenses through personal sources. The Immigration and Naturalization Office of the United States Department of Justice requires international students to submit documentary evidence of financial support for the entire period of stay in the United States. Therefore, the appropriate immigration form (I-20) will be forwarded to students who have been accepted and have submitted a $200 advanced deposit and evidence of financial support. The $200 nonrefundable deposit will be credited to the first term billing.

Interviews and Campus Visits

The Office of Admission strongly recommends that prospective students and their parents visit W&J and take the time to get to know the students, faculty, and administrators, as well as the campus facilities. A personal interview with a member of the Admission staff, while not required, is often desirable for the prospective student.

A prospective student who wishes to visit the College should make an appointment with the Office of Admission at least one week in advance. The Office of Admission, located in the Admission House, is open Monday through Friday, 9 a.m. to 5 p.m., and select Saturdays from 9 a.m. to noon (September through May). The Office of Admission also offers visit opportunities Monday through Friday during the summer months. To schedule an interview or campus tour, contact the Office of Admission at 724-223-6025 or 888-926-3529, or online at www.washjeff.edu/admission.

Prospective students wishing to have a more in-depth look at W&J can make arrangements for an overnight visit, class visit, a meeting with a specific academic department or professor, or an athletic coach. Please contact the Office of Admission at least one week in advance to allow for arrangements to be made with specific individuals of the College.

Merit Scholarships

Each year, Washington & Jefferson College rewards distinguished academic performance by offering merit scholarships to selected members of the entering freshman class. Scholarships vary based on the candidate’s level of achievement and are renewed annually subject to academic performance.

Readmission

Any student wishing to gain readmission to the College must file an application for readmission. A student dismissed for academic reasons first contacts the Office of Academic Affairs to request the appropriate form; one dismissed for social reasons begins with the Office of Student Life; and one who has withdrawn voluntarily applies directly to the Office of Admission. If the student has completed any college work elsewhere since withdrawing, an official transcript of all work must be submitted. Returning students with unpaid financial obligations to W&J must meet those obligations before matriculating.

Score Optional Policy

Washington & Jefferson College no longer requires applicants to submit test scores (SAT or ACT) as a part of the admission process. Academic success at Washington & Jefferson College is driven by engagement with distinguished faculty, involvement in the classroom, diligent study habits and a strong desire to excel. Testing is only one of many measures of potential academic success and often not the strongest. Applicants choosing the score-optional policy will be required to have an admission interview with a member of the Admission staff. If an on-campus interview is not possible because of distance from campus, the interview can be conducted by phone or Skype. Students who choose to apply under the score-optional application alternative will be given full consideration, with no disadvantage for admission.

Timetable

<table>
<thead>
<tr>
<th>Early Decision Application</th>
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<tbody>
<tr>
<td>Deadline (binding)</td>
<td>December 1</td>
</tr>
</tbody>
</table>
### Transfer Students

Students who wish to transfer to Washington & Jefferson College from an accredited college or university may apply for admission. Transfer students must submit a completed transfer application, a $25 nonrefundable application fee, a completed Transfer Clearance Form, and official transcripts from all previous colleges attended.

Additionally, transfer students are required to submit an official high school transcript with standardized test results from the SAT I: Reasoning Test (administered prior to March 2005), the SAT Reasoning Test (administered from March 2005 forward), or the American College Test (ACT) unless they are applying Score Optional. The College also agrees to waive the application fee for those who visit the campus or apply online. Students whose work at another college has been unsatisfactory will not be permitted to transfer to W&J. If accepted, transfer students are required to make an advance deposit of $200 (nonrefundable), which will be credited toward the first-term billing. A complete health form must be submitted before matriculation.

Final decision concerning transfer is made through the Office of Admission, and transfer credit is equated through the registrar. Any course accepted from another college will be recorded as credit by the registrar. Only grades attained at W&J will be used to compute a student's grade point average.

A transfer student is awarded a degree from W&J after successful completion of all W&J degree requirements, although the First Year Seminar is waived for such students. Transfer students must complete a minimum of 16 courses at W&J and must fulfill the requirements for general education and an academic major as described in the section entitled "Curriculum" within this catalog. Transfer students will be assigned to faculty advisors for consultations regarding their majors upon matriculating to W&J.

### Financial Aid

The financial aid program at Washington & Jefferson College is designed to encourage outstanding achievement and to make the College affordable. Financial need is the prerequisite for awarding most of the College's financial aid. Financial need is the cost of education less those resources available from the family. Each family is expected to contribute their share through contributions from income and assets from both the parent(s) and the student.

In addition to need, other criteria for awarding aid are scholastic standing, good character, and extracurricular achievement. Students receiving financial assistance are expected to abide by the regulations governing College life. Each student is also expected to demonstrate academic promise and maintain satisfactory academic progress. Financial aid awards from the College may be reviewed, and adjustments made, if students do not meet these expectations. In awarding aid, the College tries to estimate the total contribution a student will make to the community of scholars.

### Application Procedures - Financial Aid

All financial aid awards are for a one-year period. Changes in a student's situation with respect to any of the criteria used for awarding financial aid may result in an increase, decrease, or withdrawal of aid. Any family experiencing a change in financial circumstances (unemployment, disability, etc.) should contact the Office of Financial Aid for assistance. All students applying for
Financial Aid - Freshmen

Students planning to attend the College and wishing to apply for financial aid from W&J are required to submit the Free Application for Federal Student Aid (FAFSA). The FAFSA should be filed as soon as possible after January 1 in the senior year of high school. It is recommended that the form be filed by February 15 to ensure that the results are received by the College before March 15. This application is available from the secondary school counselor in the guidance office or online at www.fafsa.ed.gov. Financial aid awards for the fall and spring term will be made when the FAFSA has been received by the College and the student has been accepted for admission. For students selected for verification, these awards are estimated until the required tax documentation has been received and reviewed.

Financial Aid - Transfer Students

Prospective transfer students who wish to apply for financial assistance should complete the FAFSA as soon as possible. Financial aid awards will be made when the FAFSA has been received by the College and the student has been accepted for admission. For students selected for verification, these awards are estimated until the required tax documentation has been received and reviewed.

Financial Aid - Upper-class Students

Upper-class students wishing to renew their financial aid, or those wishing to apply for the first time, should submit the FAFSA by the College's priority deadline of March 15. Pennsylvania residents wishing to be considered for the Pennsylvania state grant must submit the FAFSA by May 1 at the latest. Students selected for verification must submit the tax documentation requested by the College before a financial aid award is processed for the academic year. Notification of financial aid awards is usually made in early summer.

Studying Abroad

Any student who is considering studying abroad for a semester or academic year must first meet with a representative from the Office of Financial Aid who will work with them to determine what financial aid is available for the specific program of study. In most cases, federal and state aid can be used to cover costs of an approved study abroad program. Use of W&J funding (grants and scholarships) to assist with the cost of a trip is contingent on program approval from the Director of Global Education and the term of study. Please note that tuition remission and tuition exchange cannot be used to cover expenses while studying abroad.

Students wishing to study abroad during intersession should be aware that trip costs cannot be covered by W&J funds (grants or scholarships). Students may use any remaining federal loan eligibility or apply for a private educational loan. Students need to complete a Cost of Attendance Adjustment Form in order for the Office of Financial Aid to determine eligibility.

Summer

Students interested in applying for financial aid for the summer term should complete a Summer Student Aid Request Form in addition to filing the FAFSA. Not all aid programs are available during the summer months.

Satisfactory Academic Progress

Students are expected to maintain a certain level of academic progress that will enable them to successfully complete the requirements for graduation over a four-year period. To ensure that students are making adequate progress, the Academic Status Committee meets after each term and notifies students who are not meeting academic standards. Students may be warned, placed on probation, continued on probation, or dismissed from the College. For more specific information regarding this academic review, refer to the Academic Regulations section of this College catalog.

In addition to the review of academic standing completed by the Academic Status Committee, the Office of Financial Aid is required to monitor academic progress in regard to financial aid eligibility. The Federal Higher Education Amendments mandate that institutions of higher education establish and enforce standards of satisfactory academic progress. This helps to ensure that students are moving toward successfully completing the program of study for which they are receiving financial aid in a timely manner. Washington & Jefferson College applies these standards to all institutionally awarded funds (including tuition remission and tuition exchange) and all Federal Title IV programs (including all grants and loans). Students receiving grant funds from the state are subject to the standards set by the state agency governing the funds. Some lenders require satisfactory academic progress for private loans as well.
The following requirements are established to define satisfactory academic progress as it relates to the renewal of financial assistance. Failure to meet minimum requirements will result in the loss of financial aid eligibility for the upcoming academic year.

**Policy Requirements**

Financial aid academic progress evaluations will occur annually after the end of the academic year (normally after the spring term). Freshman students who begin in January will be evaluated after the end of each fall term.

Two criteria are involved in evaluating academic progress in regard to financial aid eligibility---the number of courses successfully completed and cumulative grade point average.

**Course Completion**

Students must have successfully completed the following minimum number of courses by the conclusion of each academic year (fall, Intersession, spring) to maintain satisfactory academic progress:

<table>
<thead>
<tr>
<th>Year</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td>6</td>
</tr>
<tr>
<td>Second Year</td>
<td>12</td>
</tr>
<tr>
<td>Third Year</td>
<td>20</td>
</tr>
<tr>
<td>Fourth Year</td>
<td>28</td>
</tr>
<tr>
<td>Fifth Year</td>
<td>34 or 36 (depending on catalog)</td>
</tr>
</tbody>
</table>

Years reflected above are measured in time and not grade level. To meet the minimum course completion requirement, a student must receive a passing letter grade and earn credit in the course. Physical education (PED) credits do not count toward course completion since they are handled separately from the other courses required for graduation.

Full-time students may receive financial aid for no more than a five-year period (10 semesters). Periods of enrollment without financial aid assistance are included in this calculation. Periods of non-enrollment (for students whose education is interrupted) will not be counted.

Even though students show minimal academic progress to maintain financial aid eligibility, specific aid program requirements may limit the amount and/or number of awards they may receive prior to earning their degree. For example, W&J will award a maximum of eight semesters of College funded aid to full-time students, although some federal programs may allow additional semesters of eligibility.

**Grade Point Average**

Students must achieve the following minimum cumulative grade point average by the end of each academic year to maintain satisfactory academic progress:

<table>
<thead>
<tr>
<th>Year</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td>1.17</td>
</tr>
<tr>
<td>Second Year</td>
<td>1.74</td>
</tr>
<tr>
<td>Third Year</td>
<td>1.94</td>
</tr>
</tbody>
</table>
Other Considerations

Transfer Students---For transfer students, courses accepted for credit at W&J from the institution previously attended will be used to evaluate course completion. Only grades earned at W&J will be used to calculate the cumulative grade point average. The academic progress review for transfer students who enter at the beginning of the academic year or mid-year will occur at the end of the spring term.

Readmission---Students who are readmitted to W&J after a period of non-enrollment will be evaluated using the regular standards regarding course completion and grade point average, taking into consideration all coursework from past and present. In regard to the five year maximum time frame, periods of non-enrollment are not considered.

Part-time Enrollment---For part-time students, the normal time frame for completion of a course of study will vary. Progress evaluation for part-time students will be determined by the completion of courses attempted. Students enrolled at this level must complete 2/3 of the number of courses attempted. The same cumulative grade point average requirements apply as described under Policy Requirements.

Repeated Courses---For those students who repeat a course, both attempts will count toward course completion. Only the most recent grade will be used to determine the cumulative grade point average.

Course Audits---Audited courses do not count toward course completion and also are not used in the determination of the cumulative grade point average.

Incomplete Grades---Incomplete courses will not be counted as completed until a passing letter grade is received. They also will not be included in the cumulative grade point average calculation until a letter grade is assigned. According to the College registrar, incomplete grades must be completed in the first four weeks of the succeeding session in which the student is enrolled, or the grade of I is converted into an F. The student is responsible for informing the Office of Financial Aid of a grade change and asking for an immediate re-evaluation of progress through an appeal.

Withdrawn Courses---Courses from which a student has withdrawn do not count as courses completed and are factored in to the maximum time frame of five years. (For example, one semester of courses at a W status count as a semester toward the 10-semester maximum). These courses do not affect calculation of the cumulative grade point average.

Transfer Credit---Courses accepted for credit taken at another institution will be counted toward course completion, but will not be used in calculation of the cumulative grade point average.

Satisfactory/Unsatisfactory---For courses taken satisfactory/unsatisfactory, only a satisfactory grade will count toward course completion. Neither an S grade nor a U grade affects the cumulative grade point average.

Appeal Process

The Office of Financial Aid will notify students who are not maintaining satisfactory academic progress that they have lost financial aid eligibility for the upcoming academic year. Students may appeal for reinstatement of aid by taking the following steps:

- Submit an appeal in writing to the director of financial aid citing specific circumstances that prevented maintenance of satisfactory academic progress (trouble with coursework, illness, death in the family, etc.) and explain, if applicable, what specific steps have been taken to ensure progress in the future (enrollment in summer courses, etc.). The appeal must contain the student's signature; an e-mail is not acceptable.
- Enclose supporting documentation when possible (for example, submit a medical statement if illness is the basis of the appeal).

Appeals must be received within 30 days of notification of loss of financial aid eligibility. The Financial Aid Appeal Committee will evaluate appeals and may request additional documentation when deemed necessary. Students will be notified of the committee's decision in the mail. Reinstatement of aid is for one academic year, after which aid is again withdrawn until satisfactory academic progress is achieved. Only students experiencing extreme circumstances will be given the opportunity to appeal for reinstatement of financial aid a second time. It is at the discretion of the Financial Aid Appeal Committee to decide to approve an appeal for one term based on individual circumstances.
Summer school coursework may be the basis of an appeal, though courses must be completed before the appeal is considered. Students should note that courses not taken at W&J cannot be calculated in the student's grade point average but can count toward course completion requirements. Incomplete grades must be changed to a passing grade in the time frame designated by the registrar in order to count toward course completion. Transfer credits will not be considered toward course completion until they are officially reflected on the W&J transcript.

Sources of Aid

Financial assistance is available in several forms: grants or scholarships, loans, and campus employment. Grants are based on financial need while college scholarships are based on merit. Each is a gift and does not have to be repaid. Financial assistance may be in the form of grants only, but usually is a combination of grant, loan, and/or campus employment. Aid recipients are expected to invest in their education through the use of educational loans and student employment.

Federal, state, private, and institutional funds are the basic sources of financial assistance. The federal government provides assistance through the following programs: *Pell Grants, Supplemental Educational Opportunity Grants (SEOG), Perkins Loans, Federal Work-Study (FWS), and the William D. Ford Federal Direct Loan Program, which includes the Federal Stafford Loan and the Parent Loan for Undergraduate Students (PLUS). For all federal programs, the Title IV academic year is defined as 24 credits over a minimum of 30 weeks.

Financial assistance through federal programs is administered in accordance with government regulations and availability of funds. Changes in federal regulations or funding levels may result in a change to a student's financial aid package.

Many states provide financial assistance through state grant programs. Pennsylvania residents may receive assistance through the Pennsylvania Higher Education Assistance Agency (PHEAA). Other state grants are made based upon the policies and guidelines of those granting agencies.

Please note that once curricular requirements for graduation are met, eligibility for federal and state assistance is affected. Students choosing to continue taking classes should check with the Office of Financial Aid regarding any change in eligibility.

Students should investigate private grants or scholarships that they may be eligible to receive. Local civic groups, churches, schools, or parents' employers may have grants or scholarships available. The Office of Financial Aid must be notified of all outside scholarships received. College policy toward outside aid (except military benefits) is to use those funds to reduce or eliminate remaining financial need. If the total outside aid creates an over-award, adjustments are made first to self-help aid (loans and work study). Adjustments to College grants occur only if no other option can resolve the over-award. There is a separate policy in the Veterans section of the catalog that explains how the receipt of military benefits affect W&J funding.

Washington & Jefferson College provides assistance to eligible students in the form of grants, scholarships, loans, and campus employment. College funds are used to supplement the sources of financial aid to meet the needs of deserving full-time students, up to a maximum of eight semesters.

Endowed Student Loan Funds

College loan funds may be granted to students who, due to extenuating financial circumstances, may be deemed eligible. This assistance will be granted based upon a review of the circumstances by both the bursar and the director of financial aid. Repayment terms commence one year after the date the student is no longer registered as a full-time student. Proof of enrollment is required.

Repayment in monthly installments of principal and interest over a maximum period of ten years is required for College loans with no penalty for earlier repayment.

Government Aid Programs

Several federal financial aid programs are available to students. They are Pell Grants, Supplemental Educational Opportunity Grants (SEOG), Federal Work-Study (FWS), Perkins Loans, and loans from the William D. Ford Federal Direct Loan Program.

Three programs, the SEOG, Perkins Loans, and FWS, are administered by the College and designed to assist students with the greatest financial need. It is required that every student applying for financial assistance apply for a Pell Grant. All federal loans require submission of a master promissory note (MPN).

Additional information on the federal financial aid programs is available from secondary school guidance counselors, by contacting the Office of Financial Aid, or visiting www.studentaid.ed.gov.
Scholarships

Howard J. Burnett Presidential Scholarship and W&J Scholars Award

Each year, Washington & Jefferson College rewards distinguished academic performance by offering merit scholarships to selected full-time members of the entering freshman class. For both the Howard J. Burnett Presidential Scholarship and the W&J Scholars Award, selection is competitive. Awards are made to academically excellent students as determined by SAT (or ACT) scores, high school class rank, and other criteria, and are based upon the recommendation of the vice president of enrollment and the director of admission.

Admission applicants are considered and notified after the review of their application for admission has been made. No separate application is required, although each scholarship applicant is encouraged to have an on-campus interview. Scholarships are renewed annually (maximum of eight semesters of funding) subject to achievement of the required minimum cumulative grade point average (3.10 for Presidential and 2.80 for Scholars). Students must also maintain full-time enrollment status, remain in a degree-seeking program, and abide by the regulations governing College life.

For more information, contact the Office of Admission.

Alumni Scholarship

Washington & Jefferson College will award Alumni Scholarships to students whose father and/or mother is a graduate of the College. No formal application is required for this scholarship. Students must be enrolled in a full-time, degree-seeking program of study. This award may be renewed for up to a maximum of eight semesters provided the student maintains a 2.50 cumulative grade point average and abides by the regulations governing College life. A merit scholarship awarded supersedes any previous alumni scholarship offer.

Dean's Award

This scholarship is awarded to selected incoming members of the freshman class based upon academic performance in high school, distinguished achievement outside the classroom, and good citizenship. No formal application for the scholarship is necessary. Scholarship amounts may vary. Recipients must be enrolled as full-time students in a degree-seeking program of study. This award may be renewed for up to a maximum of eight semesters provided the student maintains a 2.50 cumulative grade point average and abides by the regulations governing College life.

Joseph Hardy Sr. Scholarship Program

The Joseph Hardy Sr. Scholarship Program provides financial assistance to full-time students in the Entrepreneurial Studies Program. Each applicant will be judged upon academic record. This scholarship may be renewed annually subject to a review of academic performance and continued study in the Entrepreneurial Studies Program.

Scholarship Renewals

The Office of Financial Aid will annually review merit scholarship renewal eligibility after the spring term for any students awarded a Presidential, Scholars, Dean's, or Alumni Scholarship or W&J Challenge Grant. Students who meet the minimum grade point average requirement specified will have their scholarships automatically renewed for the upcoming academic year. For students who do not meet the requirements, the Office will use the cumulative grade point average earned to determine eligibility for another scholarship program. When the next annual review is done, the student has the opportunity to have their initial scholarship reinstated at its original level if the higher grade point average requirement is attained. Any student who drops below the lowest grade point average requirement for scholarship and has filed a FAFSA will be considered for W&J Grant assistance if the student displays financial need.

Any student who takes the initiative to complete summer coursework at W&J that results in attainment of the required minimum grade point average may submit an appeal letter to the director of financial aid asking for reinstatement of the scholarship for the upcoming academic year. Appeals will not be accepted after the end of the fall term.

Merit scholarships are awarded for a maximum of eight semesters. Students graduating early forfeit any remaining semesters of eligibility.

W&J Challenge Grant

Members of the incoming freshman class who show academic promise may be awarded the W&J Challenge Grant. No formal application for this scholarship is necessary. Awards are renewed annually (maximum of eight semesters of funding) subject to
achievement of the required minimum cumulative grade point average of 2.50, adherence to all regulations governing College life, and maintenance of full-time status in a degree seeking program. If at least a 2.80 grade point average is achieved at the end of the first year, the amount of the Challenge Grant will increase and remain this amount in future years as long as the minimum 2.80 grade point average is maintained. In some cases, this increase in Challenge Grant may replace other institutional grant funds. Falling below this 2.80 grade point average requirement upon the next review will result in the award being reverted back to the original amount at the lower grade point average requirement.

**Student Employment**

Part-time employment is available for students on campus. This employment is supported by the Federal Work Study program and the College work program. Preference for campus jobs is given to students who demonstrate financial need and are awarded federal work study. The Office of Financial Aid works with both students and offices to fill positions. On campus jobs are advertised on the College’s Web site and at an annual job fair that is held at the beginning of the fall semester. Advertisements for positions in the local community received by the Office of Financial Aid will be posted in the office.

**Veterans**

Washington & Jefferson College is an approved institution for the training of students eligible for military benefits, whether it be benefits earned by the student or those transferred to the student from an eligible parent. Application for the education benefits available under these laws should be made to the applicable military office well in advance of the date the student plans to enter college. After receiving authorization for training, students should forward benefit documentation immediately to the College to facilitate registration. All eligible students should also complete W&J’s Military Benefits Information Form to ensure understanding of the benefits that will be received by W&J on their behalf.

W&J participates in the Department of Veterans Affairs’ Yellow Ribbon GI Education Enhancement Program to assist eligible students with obtaining a degree.

Washington & Jefferson College has a policy regarding how the receipt of military benefits will affect W&J funds (grants, scholarships, tuition waivers) though these benefits typically do not affect eligibility for federal and state programs:

In accordance with The Higher Education Act of 1965, as amended, and the legislation covering the Post-9/11 educational benefits, the following is Washington & Jefferson College’s policy regarding how funds from internal W&J scholarships, grants, and tuition waivers will be affected by receipt of military benefits.

Military benefits may consist of various programs under the Veterans Administration, Department of Defense, the state or ROTC for all branches of the military including reserves.

Students eligible for any type of military benefit must complete a Military Benefits Information Form annually and return it to the Office of Financial Aid. A certificate of eligibility or equivalent must also be on file with W&J’s VA Certifying Official (Registrar).

Entitlement to military benefits may be considered when determining eligibility for W&J merit scholarships, grants and tuition waivers.

Additional information regarding this policy may be obtained from the Office of Financial Aid, the Business Office, or W&J’s VA Certifying Official. Any loss of military benefits or change to enrollment should be communicated immediately to the Registrar.

**W&J scholarships and grants are as follows:**

- W&J merit scholarships (Presidential, Scholars, Deans, Challenge)
- W&J Alumni Scholarship
- W&J college grants (including GIFT)
- W&J endowed scholarships

1) The above scholarships and grants will be applied toward outstanding charges after the military payment and 3rd party scholarships and grants have been applied not to exceed the comprehensive fee. Thus, the order of payment on the student financial account is as follows:

First payer: Military

Second payer: 3rd party scholarships and grants (order of use: federal, state, private)

Third payer: W&J scholarships and grants listed above.

Last payer: federal and private loans
2) The comprehensive fee is defined as full time tuition (9 courses a year), standard fees (activity and service), 14 meal plan and standard double room for resident students. For commuters, this includes tuition (9 courses a year) and standard fees (activity and service).

3) For students who are eligible for the Yellow Ribbon (YR) Program of the Post 9/11 GI Bill, the above scholarships and grants (with the exception of endowed scholarships) will be used as the W&J YR contribution. The remaining tuition and fees due after the $17,500 GI Bill payment can be covered by the W&J YR contribution (maximum of $10,000) and the VA match of the YR contribution. In these cases, W&J’s YR payment is counted in the first payer category above. Part-time students eligible for YR can receive W&J’s YR contribution only if there are tuition and fee charges not covered by the GI Bill.

Tuition waivers are as follows:

- W&J tuition remission
- Tuition exchange through The Tuition Exchange, Inc.

For students eligible for Post 9/11 GI Bill benefits, tuition remission and exchange awards will be the first payer as required by the Department of Veterans Affairs since these awards are limited to tuition only.

For all other military benefit programs, tuition remission and exchange awards can be used after the military payment has been credited not to exceed the cost of tuition.

W&J College Grant

In addition to the scholarship programs listed above, the College awards funds in the form of grants to assist students with their educational expenses. Students enrolled full time must demonstrate financial need as determined by the FAFSA in order to be offered a W&J Grant. Financial need must be shown in subsequent years for this grant to be renewed. College grants are awarded for a maximum of eight semesters.

Title IV - Funds Policy

The Financial Aid Office is required by federal statute to recalculate federal financial aid eligibility for students who withdraw, drop out, are dismissed, or take a leave of absence prior to completing 60 percent of a payment period or term. The federal Title IV financial aid programs must be recalculated in these situations.

If a student leaves the institution prior to completing 60 percent of a payment period or term, the financial aid office recalculates eligibility for Title IV funds. Recalculation is based on the percentage of earned aid using the following Federal Return of Title IV funds formula:

Percentage of payment period or term completed = the number of days completed up to the withdrawal date divided by the total days in the payment period or term. (Any break of five days or more is not counted as part of the days in the term.) This percentage is also the percentage of earned aid.

Funds are returned to the appropriate federal program based on the percentage of unearned aid using the following formula:

Aid to be returned = 100 percent of the aid that could be disbursed minus the percentage of earned aid, multiplied by the total amount of aid that could have been disbursed during the payment period or term.

If a student earned less aid than was disbursed, the institution would be required to return a portion of the funds and the student would be required to return a portion of the funds. Keep in mind that when Title IV funds are returned, the student borrower may owe a debit balance to the institution.

If a student earned more aid than was disbursed to him/her, the institution would owe the student a post-withdrawal disbursement which must be paid within 120 days of the student’s withdrawal.

The institution must return the amount of Title IV funds for which it is responsible no later than 45 days after the date of the determination of the date of the student’s withdrawal.

Refunds are allocated in the following order:

1. Unsubsidized Federal Stafford Loans
2. Subsidized Federal Stafford Loans
3. Federal Perkins Loans
4. Federal Parent (PLUS) Loans
5. Federal Pell Grants for which a return of funds is required
6. Federal Supplemental Opportunity Grants for which a return of funds is required
7. Other assistance under this title for which a return of funds is required (e.g., LEAP)
Verification Policy

Any student who files a FAFSA may be chosen for a verification review. This process is required by federal regulation and the College is mandated by this regulation to adhere to the procedures explained below.

The verification process entails the review of tax documents and household information to ensure the accuracy of the FAFSA application. The selection of an application for verification does not necessarily mean that the College believes that a student's information is incorrect. Some applications are selected for review on a random sample basis. Some are selected upon a set of common edits developed by the U.S. Department of Education which check data for consistency and logic. Others are checked against prior year applications that students have submitted.

For incoming freshmen and transfer students, financial aid awards are processed, though the financial aid remains estimated until the verification process is complete. No federal or college financial aid will credit to students' accounts until this process is complete. This can result in late fees and loss of permission to register for upcoming semesters for students whose accounts are not paid by the deadlines specified by the Business Office.

For returning students selected for verification, financial aid award letters will not be processed until the review process is complete. Lack of payment to the Business Office by their required deadlines can result in late fees and loss of permission to register for upcoming semesters.

Notification of Selection

Students selected for verification review will be notified via mail at their home address beginning in April for the upcoming academic year. A student may be selected during the academic year as well. Letters sent will indicate the documents required and students are given three weeks to submit the information. Three reminder letters will be sent via mail four weeks apart. After the fourth and final notification letter, the Office of Financial Aid will not communicate with students again about this process.

Documentation Needed to Complete Verification

1. Copies of federal tax return transcripts for the student applicant and his/her parent(s). Copies of all W2s are required as well. Independent students need not submit parental information; however spousal information is required.

   Please note that the tax information required is for the tax year preceding the academic year.

2. Full completion of either a Dependent or Independent Supplement Form, which can be found in the Forms section of the Office of Financial Aid's Web site. A worksheet will also be sent via mail with the notification letter. Be sure to follow all instructions on the form and make sure all signatures are present.

3. Additional documentation may be requested at the discretion of the Financial Aid Director. For example, families who own a business will have to complete a Parent Business Value Verification Form and families who receive Social Security Income will need to submit a 1099.

Noncompliance

If the required documentation is not submitted, the following may occur:

1. No financial aid for the semester or academic year.

2. Future applications for financial aid may not be processed.

3. The financial aid application material may be forwarded to the U.S. Department of Education for their review.

Time Period

Following is the length of time you have to provide the requested documentation to the Office of Financial Aid:

- Federal Pell Grant - A valid Student Aid Report (SAR) must be submitted by students' last date of enrollment for the academic year. Students selected for verification have 120 days beyond the last day of their enrollment to complete the verification process.

- Federal Stafford Loan - Verification must be complete before the Office of Financial Aid will certify a Stafford loan and the certification must be processed prior to students' last date of enrollment.

- Federal Work Study - Students who are eligible to work on campus through the work study program will not be allowed to work until the verification process is complete and eligibility for this program is confirmed.
- Perkins Loan, SEOG and W&J College Grants - Verification documentation must be received and processed by the Office of Financial Aid resulting in a financial aid award no later than the last date of enrollment for the academic year.

**Correction Information**

When possible, the Financial Aid Office will make electronic corrections to students' FAFSA applications. These corrections will generate an updated Student Aid Report sent via paper or electronic means. The estimated family contribution may change based on the corrections made.

**Completion of the Verification Process**

When the verification process is complete, students will immediately receive:

1. A letter confirming that the verification review is finished.
2. An award letter indicating any change to the financial aid package for freshmen and transfer students. For upperclassmen, an initial financial aid award letter will be processed and mailed.

**Referrals**

If it is determined that a student has received funds which they were not eligible to receive, the student must repay the amount. If a repayment is not made, the overpayment must be referred to the U.S. Department of Education. No further applications for financial aid will be processed by the U.S. Department of Education or W&J's Office of Financial Aid.

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+Deceased, May 28, 2009
++Deceased, February 27, 2010
+++Deceased, February 12, 2010
++++Deceased, March 7, 2010
+++++Deceased, 12/19/2009
++++++Deceased 02/24/2012

Professors


James G. Benze Jr. (1985), Political Science. Ph.D., M.A., Purdue University; B.A., University of Miami.


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Nicholas J. Cavoti (1971), Psychology. Ph.D., M.A., West Virginia University; B.S., Ursinus College.


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