



**WASHINGTON  
& JEFFERSON  
COLLEGE**

**2022-23  
COLLEGE CATALOG**

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# College Catalog Introduction

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.

## Archive

You can find archives of the College Catalog on the [public website](#) or also on [MyW&J](#).

## 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)503-1001

<b>Academic Affairs</b>	Vice President for Academic Affairs and Dean of the College (724)503-1001 ext. 6006
<b>Admission</b>	Vice President of Enrollment Management (724)503-1001 ext. 6510
<b>Athletics</b>	Director of Athletics (724)503-1001 ext. 3308
<b>Business and Finance</b>	Director of Student Accounts & Bursar (724)503-1001 ext. 6014
<b>Center for Professional Pathways</b>	Associate Dean of Students & Director of Center for Professional Pathways (724)503-1001 ext. 5125
<b>Communications and Marketing</b>	Senior Director of Communications and Marketing (724)503-1001 ext. 6535
<b>Development and Alumni Engagement</b>	Vice President for Development and Alumni Engagement (724)503-1001 ext. 6519
<b>Financial Aid</b>	Director of Financial Aid (724)503-1001 ext. 6019
<b>Student Life</b>	Vice President of Student Life and Dean of Students (724)503-1001 ext. 1360
<b>Summer Session</b>	Academic Affairs (724)503-1001 ext. 6006
<b>Transcripts and Grades</b>	Registrar (724)503-1001 ext. 6017

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 (W&J) is committed to increasing diversity in our community and actively pursues individuals from all backgrounds. Additionally, W&J complies with all applicable federal, state and local laws and provides equal opportunity in all educational programs and activities, admission of students and conditions of employment for all qualified individuals regardless of race, color, sex, religion, age, disability, sexual orientation, or national origin. For more information about W&J's Title IX compliance, please visit [Title IX Compliance at W&J](#).

# W&J Mission and Student Outcomes

## 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 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.

## 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. Transfer students should refer to JaySource to ascertain their assigned 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.

## STATEMENT OF RESPONSIBILITY

It is the responsibility of each student to know both the College-wide graduation requirements and those of their major and minor fields 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 department chair(s) of their declared programs, the Office of Academic Affairs, and the registrar are the first resources each student should turn to when questions arise.

## GRADUATION REQUIREMENTS

Washington & Jefferson College divides its College-Wide requirements into four parts: Foundations, Breadth, Depth, and the Practicum. The requirements for fulfillment of Foundations, Breadth, and the Practicum are common to all students. The Depth requirements are represented by the program-level requirements for completing majors and minors and can be found in the Areas of Study section of this catalog.

For a Bachelor of Arts degree from Washington & Jefferson College, a student must complete a minimum of 32 courses (128 credits) and one Physical Activity and Wellness Education course-equivalent, and satisfy the Practicum requirement. Students must have a minimum grade point average of 2.00 to graduate and must be "in residence" for a minimum of four semesters of full-time study, one of which must be their final full-time semester. This requirement applies to all new students, including transfer students. All students must complete at least 16 courses (64 credits) at W&J excluding physical activity courses and health and wellness course-equivalents.

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

# College-Wide Requirements

W&J's curriculum is founded upon the integration of knowledge through **foundations courses**, exploration across the **breadth** of the curriculum and the pursuit of intellectual and professional **depth** through a double major or major and minor. W&J's is a practical education that prepares students to work in any number of professions. It also prepares you for a life of the mind and a life in service to yourself and your community. Students reflect upon this dual intellectual and practical preparation through the advising process and as they complete their required **practicum**.

## I. FOUNDATIONS

The first outcome of a W&J education is the ability to approach problems from multiple perspectives. This means that you can use the intellectual and analytical tools of a scientist or historian as easily as those of an economist, an artist, a mathematician, or a literary scholar. W&J's breadth and depth requirements equip you for this kind of thinking, but the conversation begins with your **First Year Seminar** and your discussions with your seminar instructor (your first academic advisor at the College) about subsequent courses, to be taken before the end of your sophomore year. These courses provide education in **First Year Composition** and **writing, foreign languages, diversity** and **health and wellness**, establishing the foundation for your further studies as an upper-class student.

### 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.

### First Year Composition and Writing

All students will take First Year Composition. Transfer students must show similar training from courses completed prior to matriculating at Washington & Jefferson College. In addition, students must pass one additional writing-intensive course; such courses are specially designated on the session schedule of classes published by the registrar.

### 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 automatically fulfill the requirement. Students who have completed at least two years of their secondary education (grades 9-12 or equivalent) in a language other than English as well as international students or students with backgrounds in languages other than English may petition the Chair of the Department of Modern Languages for satisfaction of the foreign language requirement. Students are encouraged to fulfill the foreign language requirement during their first two years at W&J.

### Diversity

The W&J mission calls for graduating people who are responsible citizens prepared to contribute substantially to the world in which they live, accomplished in part by promoting a worldview that characterizes a well-educated person. In support of this mission, a College Foundations requirement is that all students take at least one specially designated Diversity course that is substantially about diversity and the many ways it is expressed in, and informs, our everyday experiences. As a foundational requirement, this course helps students prepare for and reflect upon the many other ways they encounter diversity at W&J: in residence halls, on the athletic field, in travel courses, through Magellan experiences, and in many other academic courses that they take.

### Physical Activity and Wellness Education

The Physical Activity and Wellness requirement is intended to provide the knowledge for students to make healthy lifestyle choices throughout their lifetime. All students must complete one course-equivalent within the Physical Activity and Wellness program, in addition to the 32 courses required for graduation. Students must satisfy this requirement by taking four quarter-courses or two half-courses, or a combination of quarter- and half-courses. At least a half-course equivalent (2 credits) must come from Health and Wellness courses, and at least a half-course equivalent (2 credits) must come from Physical Activity courses. Students may apply to have participation in a season of a varsity sport, as this participation is defined by the Athletic Department, approved for a half-course (2 credits) of Physical Activity. All Physical Activity (PHA) and Health and Wellness (PHW) courses will be taken P/F\*. Because of their role as foundational courses in the W&J curriculum, in most cases half of the seats in Physical Activity and Health and Wellness courses are reserved for freshmen and sophomores. Physical Activity (PHA) and Health and Wellness (PHW) courses taken toward fulfillment of graduation requirements are included in tuition. Students who have completed either portion of their Physical

Activity or their Health and Wellness courses toward fulfillment of graduation requirements may take additional courses in that category at additional cost.

## II. BREADTH

How do we gain insight about and understanding of ourselves and our environment? Productive inquiry begins with asking powerful questions. A liberally educated student develops an integrated understanding of the world by studying different ways to frame these questions and to explore possible answers to them. This will begin a lifelong process of drawing connections between disciplines, and learning to approach big challenges from multiple points of view.

At W&J, students learn to do this by taking one each of the following six kinds of courses. Students may count at most three courses offered by a single department or interdisciplinary program towards their breadth requirements.

*Artistic:* These courses teach students to create or understand works of art as expressions of imagination, technique, or historical and cultural context, using the tools of creativity or performance, formal analysis, or comparative study.

*Behavioral:* These courses teach students to explore the functions of society through examination of individual, collective, and institutional behaviors, using the tools of observation, qualitative and quantitative modeling, and data analysis.

*Historical:* These courses teach students to investigate the past through the study of primary and secondary texts and artifacts in an effort to construct explanatory narratives important to the present.

*Literary:* These courses teach students to explore the meaning of human experience as represented in texts, using the tools of close reading, comparative study, contextual inquiry, and critical analysis.

*Logical:* These courses teach students to investigate the world through the use of abstraction and axioms, using the tools of deduction, modeling, or quantifiable or formalized systems of reasoning.

*Scientific:* These courses teach students to investigate the natural world and the means by which scientific principles are assembled, using the tools of observation, experimentation, theoretical inquiry, modeling, and data collection and analysis.

## III. DEPTH

All students must complete the requirements of at least one of the College's 30+ majors as well as either a second major or one of the College's 30+ minors. For additional information, please refer to [The Academic Major](#) and [The Academic Minor](#).

## IV. PRACTICUM

All students are required to complete an extended hands-on experience to practice their professional skills and career competencies in an applied setting. In the practicum, students use content and skills learned in classes to navigate challenges and solve problems in non-classroom settings, furthering their intellectual and professional development.

This immersive experience can be fulfilled through a variety of experiences, including internships, service projects, qualified Magellan projects, guided on-campus student employment, advanced research projects, or self-designed experiences proposed by the student. Students will work with their advisors to identify experiences that will further their career goals and draw on the skills and knowledge from their complementary programs of study; International Students should also consult with the Office of Study Abroad before completing a practicum. All practica culminate in a reflective meeting with an academic advisor to reflect upon their work within the practicum and how it may have refined their academic or career goals.

### Practicum Outcomes and Objectives

After completing their practicum requirement, students will be able to:

- Explain what they accomplished through their practicum and what challenges or failures they encountered.
- Identify the curricular and co-curricular experiences that prepared them for their practicum.
- Identify the skills they used in executing their work or project.
- Identify skills they would like to continue developing as part of their professional goals.

- Explain how they demonstrated appropriate professional and ethical behavior in the execution of their work or project.

### Practicum Guidelines

To fulfill the practicum requirement, an experience must meet the following guidelines:

- **Build upon knowledge gained through a course or a collection of courses.** The practicum must integrate content and skills that are learned in the classroom in a professional setting. It is not necessary that it connect directly to a student's major or minor.
- **Involve work that requires professional judgment and skills.** The practicum work must incorporate professional skills such as critical thinking, problem solving, teamwork, oral and written communication, ethical reasoning, digital technology, leadership, global and cultural fluency, and professionalism.
- **Include training or guidance from a professional with expertise in that field/profession/activity.** This may include a faculty member, on-site supervisor, W&J employee, or other professional. This practicum mentor must agree to inform and mentor the student regarding recognized ethical or professional guidelines and policies relevant for their intended practicum experience.
- **Include oversight from, involvement of, accountability to, or alignment with the standards of a party external to the Faculty.** This might include working directly for another organization or in the case of a service project the student may be mentored by a faculty or staff member, perhaps in the context of a course, but be performing work in support of an external group. In the case of research, accountability might take the form of collaboration with a wider group of researchers or carrying out a project in a way that makes it suitable for review and possible publication.
- **Involve at least 40 hours of active work on the part of the student.** This work can occur in either a devoted period or accrue over time, reflecting a coherent experience and typically involving work with a single organization (such as a nonprofit, volunteer organization, company, or campus office).

### Practicum Procedures and Forms

In completing the practicum requirement, students will be guided by the following three forms: the **Practicum Declaration of Intent** indicating that they have identified a practicum, the **Practicum Attestation of Project Completion** indicating that they have completed the work of the practicum, and the **Practicum Reflection** indicating that they have reflected upon their practicum. This final form is signed by the academic advisor to certify that the practicum requirement has been met.

# The Academic Major

In addition to the College-wide requirements described, all students must complete the requirements of at least one 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. While completing a major, you will develop skills in **writing, communication, and information technology** appropriate to that discipline. You will also complete a **capstone requirement** that will allow you to integrate knowledge and skills learned while completing your major through a culminating project appropriate to the field.

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 pass/fail grading option.
- The overall grade point average in all courses required for the major must be 2.00 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 course study.
- 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 a major for a transfer student. If fewer than three courses accepted for transfer are applied towards the major, this student may pursue external coursework under the provisions.
- Departments and programs may allow up to half the courses required for a major to be transferred to W&J, according to specific guidelines in international 2+2 agreements. All other policies regarding transfer students, and courses taken at other institutions, apply.

# The 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. In addition to their academic major, students must complete either an academic minor or a second major. Typically, minor courses of study require five to seven 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 2.00 or better in courses counted towards the minor.
- Courses counted towards the minor may also count toward fulfillment of the College's College-Wide requirements.
- Regulations governing the application of courses towards the minor program can be found in "[How Courses are Counted](#)."
- No more than two courses taken at another institution can be counted toward a minor without approval of the minor's program chair or director.

# Summary of Degree Requirements

Students must satisfactorily complete the following College-Wide Requirements:

## I. FOUNDATIONS

These courses promote liberal learning and prepare students for further study. FYS and Composition are completed in the first year; students are advised to complete a foreign language, diversity and writing within the first two years of study.

First Year Seminar	One course
First Year Composition	One course
Writing	One writing-intensive course in any discipline; can also be a Diversity, Breadth, or Depth course
Foreign Language	Two courses if study begins at first-year level; one course if study begins at second-year level
Diversity	One course; can also be Breadth or Depth course
Physical Activity and Wellness	Equivalent of one course: one half-course (2 credits) Physical Activity (PHA), one half-course (2 credits) Health and Wellness (PHW). Does not apply to 32 course requirement

## II. BREADTH

These courses promote understanding within and between disciplines. Students complete one from each category. Students may count at most three courses offered by a single department or interdisciplinary program towards their Breadth requirements.

Artistic	These courses teach students to create or understand works of art as expressions of imagination, technique, or historical and cultural context, using the tools of creativity or performance, formal analysis, or comparative study.
Behavioral	These courses teach students to explore the functions of society through examination of individual, collective, and institutional behaviors, using the tools of observation, qualitative and quantitative modeling, and data analysis.
Historical	These courses teach students to investigate the past through the study of primary and secondary texts and artifacts in an effort to construct explanatory narratives important to the present.
Literary	These courses teach students to explore the meaning of human experience as represented in texts, using the tools of close reading, comparative study, contextual inquiry, and critical analysis.
Logical	These courses teach students to investigate the world through the use of abstraction and axioms, using the tools of deduction, modeling, or quantifiable or formalized systems of reasoning.
Scientific	These courses teach students to investigate the natural world and the means by which scientific principles are assembled, using the tools of observation, experimentation, theoretical inquiry, modeling, and data collection and analysis.

## III. DEPTH

Academic majors and minors promote integrative thinking and depth of understanding within one or more disciplines. Each academic major also teaches writing, communication skills, and information technology skills appropriate to the discipline. Each major has a capstone that promotes integrative thinking.

Academic Major	Minimum of eight courses, including capstone experience
Academic Major or Minor	Minimum of five courses

Each student must complete a minimum of 32 courses and one Physical Activity and Wellness Education course-equivalent. In this course requirement are included all Foundations, Breadth, and Depth courses as outlined above. Students must attain a minimum overall grade point average of 2.00 or better, and a grade point average of 2.00 or better in the course requirements for each of their majors and minors.

## IV. PRACTICUM

All students are required to complete an extended hands-on experience to practice their professional skills and career competencies in an applied setting. In the practicum, students use content and skills learned in classes to navigate challenges and solve problems in non-classroom settings, furthering their intellectual and professional development.

# Additional Courses of Study

## MULTIPLE MAJORS

Students who desire to do so may complete two or more majors, pursuant to all policies governing the academic major. All students must complete either an academic minor or a second major. A student pursuing multiple majors must complete at least six unique courses in each of their majors.

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.

## MAJOR 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. No course in which the student earns a grade of less than C- shall count towards fulfillment of the emphasis, and the student must maintain an overall grade point average of 2.00 or better in courses counted towards the emphasis. These grade requirements also apply to the thematic emphasis.

## 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 College-Wide 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. Refer to the [Articulation Agreements](#) section of this catalog for more information. Students will need to complete the Combined Degree Notification form and submit the form prior to leaving campus the last term they are enrolled at W&J.

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 at least a 2.00 grade point 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. Students may satisfy the two course-of-study graduation requirement through the academic major completed at W&J and additional coursework at the second institution of study. The verification of the degree is made by the appropriate faculty

# How Courses Are Counted

## PARTIAL COURSES

For the purposes of counting courses, a full course is 4 credits. For the purpose of meeting the minimum of 32 full courses required for graduation, students may combine partial semester and/or JayTerm courses (other than physical activity courses and health and wellness courses) to make full courses. For example, students may take one JayTerm course in mathematics and one half course in applied music to make one full course. Physical activity (PHA) courses and health and wellness (PHW) courses do not apply towards the 32-course graduation requirement.

Some courses are "unbilled" and can affect eligibility for financial aid. These courses include PHA and PHW courses, MUA courses, COM 242 and COM 252, EDU 250, MTH 320, MTH 420, PHY 441, PHY 442, and freshman and sophomore-level ROTC courses (MSC 101, 102, 201, and 202). 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 can be used to satisfy the requirements of multiple majors and minors, provided that:

- the courses used to satisfy the requirements of a major involve at least six unique courses that are not being used to satisfy the requirements of any other major or minor.
- the courses used to satisfy the requirements of a minor involve at least three unique courses that are not being used to satisfy the requirements of any other major or minor.

A capstone experience in one major cannot count as a capstone experience in another major.

Individual programs may place further restrictions on combinations of majors and minors that may be completed together. Students may not complete both a major and a minor in the same discipline.

# Opportunities Outside the Regular Term

## JAYTERM

The JayTerm is a short term during which intensive and sharply focused courses can be offered. These experiences often depart from what would be possible for students and faculty during the regular semester. JayTerm courses are generally half (2-credit) or quarter (1-credit) courses and count towards the total of 32 courses required for graduation. Students may enroll in only a single JayTerm course (whether 1 or 2 credits) each academic year, and may count at most two course equivalents (8 credits) of JayTerm total towards graduation.

For full-time students, fall and spring tuition covers the equivalent of nine course registrations (36 credits) per academic year in addition to a single JayTerm course (which may be 1 or 2 credits). All travel expenses for JayTerm courses are the responsibility of the student, as are any special costs for field trips.

## 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 the summer sessions (two courses per term, or one course with lab 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](#). Current W&J students may register for Summer School using JaySource 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 "[Transfer of Courses](#)" 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 291/292/293J (freshmen and sophomores) or 391/392/393J (juniors and seniors).

The Tutorial Request form must be completed and submitted to the Academic Affairs Office for review. Academic Affairs approves all tutorial requests.

## INTERNSHIP

Internships enable students to 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 graded pass/fail.

A student may take no more than two internships for an equivalent to two full courses (8-credits maximum). 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.

The Internship Request form must be completed and submitted to the Academic Affairs Office for review. Academic Affairs

approves all internship requests.

## 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. A minimum GPA of 2.5 is required to apply for independent study. If a student does not have a minimum 2.5 GPA, advisor permission is required.

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.

## STUDY ABROAD AND OFF-CAMPUS STUDY

Students may earn credits toward their W&J degree by participating in an approved JayTerm, semester- or year-long program of off-campus study. For more information, please refer to the section on the [Office of Study Abroad](#).

# Areas of Study

## Accounting

[Business](#)  
Major, Minor

## African American Studies

Minor

## American Studies

Minor

## Arabic

[Modern Languages](#)  
Other

## Art

[Art](#)  
Major

## Art Conservation

Minor

## Art Education

[Art](#), [Education](#)  
Major

## Art History

[Art](#)  
Minor

## Asian Studies

Minor

## Biochemistry

Major

## Biological Physics

[Physics](#)  
Major Emphasis

## Biology

[Biology](#)  
Major, Minor

## Biomedical Science

[Biology](#)  
Major Emphasis, Minor

## Business Administration

[Business](#)  
Major, Minor

## Cell and Molecular Biology

[Biology](#)  
Major Emphasis, Minor

## Chemical Physics

## Physics

Major Emphasis

## Chemistry

[Chemistry](#)  
Major, Minor

## Child Development and Education

[Education](#), [Psychology](#)  
Major

## Chinese

[Modern Languages](#)  
Minor

## Communication Arts

[Communication Arts](#)  
Major, Minor

## Computer Science

[Computing and Information Studies](#)  
Major Emphasis

## Computing & Information Studies

[Computing and Information Studies](#)  
Major, Minor

## Conflict & Resolution Studies

Minor

## Conservation Biology

[Biology](#)  
Major Emphasis

## Creative Writing

[English](#)  
Major Emphasis, Minor

## Data Science

[Computing and Information Studies](#)  
Major Emphasis

## Digital Media

[Computing and Information Studies](#)  
Major Emphasis

## Earth and Space Science

Other

## Economic Development

[Economics](#)  
Major Emphasis

## Economics

[Economics](#)  
Major, Minor

## Education (Teacher Certification)

[Education](#)  
Minor

## Engineering and Applied Science Dual-Degree Programs

Pre-Professional

## English

[English](#)  
Major, Minor

## Entrepreneurship

[Business](#)  
Major Emphasis, Minor

## Environmental Science

Major

## Environmental Studies

Major, Minor

## Experimental Physics

[Physics](#)  
Major Emphasis

## Finance

[Business](#)  
Major, Minor

## First Year Seminar

Other

## Forensic Science

Minor

## French

[Modern Languages](#)  
Major, Minor

## Gender & Women's Studies

Major, Minor

## German

[Modern Languages](#)  
Major, Minor

## Health and Society

[Health Studies](#)  
Minor

## History

[History](#)  
Major, Minor

**Human Resource Management**

[Business, Psychology](#)

Major Emphasis

**Interaction Design**

[Computing and Information Studies](#)

Major Emphasis

**Interdisciplinary Courses**

Other

**Interfaith Leadership Studies**

Minor

**International Business Administration**

[Business](#)

Major Emphasis

**International Studies**

Major

**Latin American Studies**

Minor

**Marketing**

[Business](#)

Major Emphasis, Minor

**Mathematical Physics**

[Physics](#)

Major Emphasis

**Mathematics**

[Mathematics](#)

Major, Minor

**Media Studies**

[Communication Arts](#)

Major Emphasis

**Mind and Language**

Minor

**Modern Languages**

[Modern Languages](#)

Other

**Music**

[Music](#)

Major, Minor

**Music Literature & Theory**

[Music](#)

Major Emphasis

**Music Media**

[Music](#)

Major Emphasis

**Music Performance**

[Music](#)

Major Emphasis

**Neuroscience**

Major, Minor

**Other Academic Opportunities**

Other

**Philosophy**

[Philosophy](#)

Major, Minor

**Philosophy & Physics**

[Physics](#)

Major Emphasis

**Physical Activity and Wellness**

Other

**Physics**

[Physics](#)

Major, Minor

**Political Science**

[Political Science](#)

Major

**Pre-Health Professions Program**

Pre-Professional

**Pre-Law**

Pre-Professional

**Professional Writing**

Minor

**Psychology**

[Psychology](#)

Major, Minor

**Public Policy**

[Public Service and Community Studies](#)

Major, Minor

**Public Relations**

[Communication Arts](#)

Major Emphasis

**Public Service and Community Studies**

[Public Service and Community Studies](#)

Major, Minor

**Religious Studies**

[Philosophy, Religious Studies](#)

Minor

**Reserve Officers' Training Corps (ROTC)**

Pre-Professional

**Russian**

[Modern Languages](#)

Other

**Russian Studies**

Minor

**Scientific Foundations**

[Health Studies](#)

Minor

**Social Justice Studies**

Minor

**Sociology**

[Public Service and Community Studies](#)

Major, Minor

**Spanish**

[Modern Languages](#)

Major, Minor

**Studio Art**

[Art](#)

Major, Minor

**Theatre**

[Communication Arts](#)

Major Emphasis, Minor

**Thematic Emphasis**

Major Emphasis

**Thematic Major**

Major

**Web and Mobile Technologies**

[Computing and Information Studies](#)

Major Emphasis

## About Areas of Study Classifications

### Major

A major comprises a set of courses of demonstrated intellectual rigor and depth in a specific discipline. While completing a major, you will develop skills in writing, communication, and information technology appropriate to that discipline. You will also complete a capstone requirement that will allow you to integrate knowledge and skills learned while completing your major through a culminating project appropriate to the field.

### Major 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.

### 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.

### Dual-Degree

Dual-degree 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 specific graduation requirements at W&J, often in just three years, and then commence 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.

### Pre-Professional

These programs support and advise students interested in gaining admission to professional school after completing their degree at W&J.

### Other Opportunities

W&J gives students the chance to explore numerous subject areas not formally associated with a specific course of study. Students may take these courses to satisfy graduation requirements or simply to satisfy their own curiosity.

## ACCOUNTING

Classifications: Major, Minor

**Faculty:** Dana Allen, C.P.A., M.S.T.; Lori Galley, Ph.D.; Stephen Kuhn, CPA, CMA, MAcc.

**Department Chair:** Lori Galley, Ph.D.

The Accounting program of the Department of Business provides the opportunity to study what is often called "the language of business." The program prepares students for entry-level positions in public accounting, private business organizations, not-for-profit organizations, and governmental entities, or for a wide variety of graduate programs including accounting, business and law. Within the college's liberal arts environment, the program develops technical competency in

accounting, while stressing critical thinking and analysis, as well as technology, writing and oral communication skills.

**MAJOR REQUIREMENTS:** [ECN 101](#) and [102](#); [MTH 125](#); [FIN 341](#); [ACC 211](#), [212](#), [321](#), [331](#), [332](#), [353](#), [471](#); and two elective 300-level or 400-level accounting (ACC) courses.

**MINOR REQUIREMENTS:** [ACC 211](#), [212](#), [321](#), [331](#), [332](#), and one of the following: [346](#), [353](#), [354](#), or [431](#).

#### NOTES:

**Transfer Credit:** In satisfying the requirements of the major or minor, the program requires that the following courses be completed at Washington & Jefferson College: [FIN 341](#) and [ACC 211](#), [212](#), [321](#), [331](#), [332](#), [353](#) and [471](#). Students may petition the program coordinator to waive this requirement in special circumstances.

**Alternative Course of Study:** Students desiring a more general background in business may complete an optional emphasis in accounting in the context of the business administration major. See [BUSINESS ADMINISTRATION](#).

#### Restrictions on Combinations of Courses of Study:

Students majoring in accounting may not complete a second major in economics, business or finance, but may complete one minor in economics, finance or entrepreneurship. Students majoring in accounting may not complete a minor in business.

**Prerequisite Grade Requirement:** 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.

**CPA Exam and Licensure Requirements:** Students pursuing careers in public accounting are encouraged to sit for the CPA exam soon after completing the accounting program. The requirements of Washington & Jefferson'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 and are sufficient to provide a foundation for entry into the accounting profession. However, thorough preparation for the CPA exam demands that the student complete not only the requirements of the major, but also, additional courses in accounting and business law and a post-graduate program of self-study review. Students should consult their advisor for more detail relative to preparing for the CPA exam.

Most states now require a baccalaureate degree and 150 semester hours of credit for licensure as a CPA. Additionally, within the 150-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). Students should consult with the accountancy board of the state in which they intend to sit for the CPA exam to ascertain the specific educational requirements of that state. Additionally, students should understand that many public accounting firms offer employment only to those students who will have met the 150-hour requirement by the start of their employment.

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 Washington & Jefferson's graduation requirement of 32 courses, and the physical activity and wellness requirement, students are awarded 132 semester hours of credit. Thus, Washington & Jefferson graduates need only 18 additional hours of credit to satisfy the requirement. Up to eight of these additional hours may be obtained by completing a Washington & Jefferson JayTerm course in each year (up to two hours of credit are granted for each JayTerm course). Additional hours may also be obtained through undergraduate courses at Washington & Jefferson 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. Students should consult their advisor and develop a plan to meet the 150-hour requirement.

### **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.

#### **Prerequisites**

None

### **ACC212 - Managerial Accounting**

An introduction to the use of accounting information in managerial decision-making, financial planning, and financial control. Includes financial statement analysis, cost behavior concepts, cost-volume-profit analysis, cost allocation, product cost flows/terminology, differential analysis, product pricing concepts, preparation of pro-forma financial statements in support of both long-term and short-term business planning processes, responsibility reporting, and benchmarking. Extensive use of spreadsheet software.

#### **Prerequisites**

ACC 211

### **ACC321 - Accounting and 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**

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 including 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 211

### **ACC332 - Intermediate Financial Accounting II**

A continuation of ACC 331, representing 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.

#### **Prerequisites**

ACC 331

### **ACC346 - Cost and Advanced Managerial Accounting**

A study of product costing concepts and cost accumulation systems as well as budgeting, cost management and profitability analysis.

#### **Prerequisites**

FIN 344

### **ACC353 - Taxation of Business Entities**

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

#### **Prerequisites**

ACC 211

### **ACC354 - Taxation of Individuals**

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

## ACC361 - Governmental and Not-For-Profit Accounting

A study of accounting and reporting for governmental entities as defined by the authoritative pronouncements of the Governmental Accounting Standards Board (GASB) and for private not-for-profit entities as defined by the Financial Accounting Standards Board (FASB).

### Prerequisites

ACC 332

## 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 321 and 332

## ACC497 - Advanced Topics in Accounting

Topics courses are occasionally offered to broaden or enhance the accounting curriculum beyond the regular catalog offerings to include items of specialized interest or current or emerging events. Students' transcripts will indicate the titles of specific course offerings.

### Prerequisites

Will vary according to topic

## 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 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

None

## AFRICAN AMERICAN STUDIES

Classifications: Minor

**Steering Committee:** Julia Bernier, Ph.D.; David Bunting; Jennifer Harding, Ph.D.; Carolyn Kyler, Ph.D.; Max Miller, J.D., M.B.A.; Michael Wolf, Ph.D.

**Program Directors:** Michael Wolf, Ph.D.

The African American Studies Program maintains that the experience and contributions of African Americans are central to American culture as a whole. Interdisciplinary in focus, this minor explores the diverse experiences of African American people from the period of European contact with North America and the beginnings of the Atlantic slave trade to the contemporary moment through the study of history; art, literature, music, and other forms of cultural production; philosophy and religion; and public policy. In particular, the minor provides students with opportunities to interrogate how ideas of racial identity and difference have been constructed and articulated in U.S. culture, what impact those ideas have had, and the diverse ways in which African Americans have endeavored to achieve greater rights and representation. Through the study of African American experiences in their diverse manifestations, students will develop the knowledge, skills, and perspective through which they can meaningfully engage contemporary questions of diversity, inclusion, and social justice.

The minor consists of five courses. All students completing the African American Studies minor will take [AAS 101](#). Students will also complete four of the following courses: [AAS 250](#); [ENG 270](#); [ENG 343](#); [HIS 275](#); [MUS 221/321](#); [MUS 251/351](#); [PHL 137](#); [SOC 241](#). Some additional course topics may occasionally be designated as AAS courses depending on their content. These four additional courses must be selected from at least two different departments or programs.

The African American Studies minor is available to students in any major. At least three courses in this minor must be unique to the minor and not be used to satisfy the requirements of any other major or minor.

## AAS101 - Introduction to African American Studies

This course serves as an introduction to the discipline of African American Studies. It will examine the histories and cultures of African Americans in the United States, as well as their relationship to the broader global African diaspora. Students will also be introduced to the field's interdisciplinary methods, analytical frameworks, and classic and emerging scholarship.

### Prerequisites

None

## AAS250 - Topics in African-American Studies

A study of a selected topic in African-American Studies. Topics vary from year to year. Sample topics might include The Civil

Rights Movement or Black Women and Activism. The course may be repeated for credit if the topic differs.

### Prerequisites

None

## AMERICAN STUDIES

Classifications: Minor

**Steering Committee:** Jennifer Harding, Ph.D.; Karin Maresh, Ph.D.; Mark Swift, Ph.D.

**Program Directors:** Jennifer Harding, Ph.D.

The American Studies minor is a five-course cluster available to students in any major who are interested in a multidisciplinary examination of American culture. American Studies draws upon the perspectives of many disciplines to examine American life, history, and culture, as well as the United States' global engagements, the diverse experiences of individuals and groups living in the United States, and the many ways that those individuals and groups have imagined and debated what it means to be American. The minor offers students opportunities to study American culture from a multidisciplinary perspective and provides a useful background for students preparing for careers in law, government, writing, the arts, international affairs, education, and others.

The American Studies minor consists of five courses. Students must take [AMS 101](#): Introduction to American Studies and four courses taken in two or more disciplines (i.e., with two or more course prefixes). At least three of those courses must be taken at the 200-level or above, and one must be at the 300-level or above. At least three courses in this minor must be unique to the minor and not be used to satisfy the requirements of any other major or minor.

**MINOR REQUIREMENTS:** The following courses count towards the AMS minor: [COM 321](#); [ENG 265, 266, 270, 325, 335, 341, 343](#); [HIS 110, 216, 275, 279, 333, 336, 337](#); [MUS 221/321, 251/351, 261/361](#); [POL 110,111, 210, 212, 220, 314, 315](#). Other courses may be counted towards the minor at the discretion of the Program Director and Steering Committee.

### AMS101 - Introduction to American Studies

What does it mean to be an American? Who can claim that identity and why? What are the rights, privileges, and obligations that come with it? What kind of a country is the United States, and what is its relationship with the rest of the world? In this introductory, discussion-based class, we will assume that there are not simple answers to these questions and instead will investigate how groups, individuals, and institutions have imagined and debated them in various moments. To do so, we will take an interdisciplinary approach to the study of a particular moment or issue and analyze cultural products including film, fiction, theater, music, television programs, and practices as diverse as religious celebrations, consumerism, and travel. We will pay close attention to how ideas about identity - racial, gendered, sexual, economic, and more - have been produced and contested. Along the way, we will practice a range of methods for analyzing culture and sharing our analyses, develop a scholarly

vocabulary for American culture studies, and discuss the benefits and limitations of interdisciplinary scholarship and its relationship to more traditional disciplines.

### Prerequisites

None

### AMS200 - Topics in American Studies

Open to all students without prerequisite. This course is an in-depth study of a subject chosen from topics dealing with American culture, varying from year to year. The course is interdisciplinary in nature, combining material across traditional areas of knowledge, such as science and history, art and archaeology, or technology and literature. In addition, it teaches the art of close reading and analytical writing. The course will be a study of selected topics in American Studies focusing on one or more of the following subjects in the United States and/or its sphere of influence: culture, sense of place, institutions, identity, performance, history, etc. The course may be repeated for credit if the topic differs.

### Prerequisites

None

## ARABIC

Classifications: Other

**Department Chair:** Katherine Ternes, Ph.D.

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 entering freshmen with prior experience in Arabic will receive language placement by program faculty. This placement will determine their first course in the sequence. NOTE: Students who have completed coursework at one level may not take courses at a lower level without departmental approval.

### 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.*

### Prerequisites

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.*

### Prerequisites

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

Classifications: Major

**Faculty:** Carolina Alamilla; John Lambertson, Ph.D.; Douglas McGlumphy, M.F.A.; Patrick Schmidt, M.F.A.

**Department Chair:** John Lambertson, Ph.D.

The Department of Art and Art History 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 and minors in Studio Art and Art History.

**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 does 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. 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. After each 400-level studio, departmental faculty will critique the semester's work to prepare students for their Senior Art Show. Students will be advised to take specific courses or to work independently to correct any deficiencies and must receive faculty approval before exhibiting work.

**STUDIO ART MINOR REQUIREMENTS:** Seven courses: [ARH 101, 102](#); [ART 108, 112, 361](#) or [362, 363](#), and one 400-level ART course. [ART 400](#) does not count toward the studio art minor.

**ART HISTORY MINOR REQUIREMENTS:** Six courses: [ARH 101](#) and [102](#); any four 300-level ARH courses.

**NOTE:** Students majoring in Studio Art or Art Education take three art history courses for their major, but may only count two of those for the minor. These students take four additional art history courses for the minor.

**AP Policy:** The Art and Art History 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.

**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.

## ART108 - 2-D & 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.

### Prerequisites

None

## 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.

### Prerequisites

None

### **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.

#### **Prerequisites**

None

### **ART247 - Special Topics in Studio Art**

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

#### **Prerequisites**

None

### **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.

#### **Prerequisites**

None

### **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.

#### **Prerequisites**

None

### **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.

#### **Prerequisites**

None

### **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.

#### **Prerequisites**

ART 112

### **ART347 - Special Topics in Studio Art**

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

#### **Prerequisites**

ART 108 or 112

### **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.

#### **Prerequisites**

ART 108, 112, or 261

### **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.

#### **Prerequisites**

ART 108, 112, or 262

### **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.

#### **Prerequisites**

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*

#### **Prerequisites**

None

### **ART405 - Internship in Studio Art**

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

## Prerequisites

Permission of the instructor and department chair

### 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.

## Prerequisites

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.

## Prerequisites

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.

## Prerequisites

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 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

None

## ART CONSERVATION

Classifications: Minor

**Steering Committee:** Jennifer Bayline, Ph.D.; John Lambertson, Ph.D.

**Program Directors:** Jennifer Bayline, Ph.D.; John Lambertson, Ph.D.

The art conservation minor is an interdisciplinary course of study providing students with an experience in cultural preservation built on chemistry, art, and art history in order to support the integrated, liberal arts mission of Washington & Jefferson College's curriculum. Students who complete this 6-8 course minor will acquire a foundation in chemistry, experience the creative process of design, and identify the artistic heritage of art. They will integrate this knowledge into an experience that considers how the chemical composition of a work of art can impact its appearance and properties and how scientific testing can inform approaches taken to preserve or restore art. The program is designed to expose students to art conservation so they can explore possible interests in fields of cultural preservation, library science, art history, art, chemistry, and materials science, amongst others. Students considering a graduate program in or related to art conservation should consult with a program coordinator, and the websites of relevant graduate programs, as soon as possible for additional recommendations.

**MINOR REQUIREMENTS:** The requirements of the minor vary depending upon the student's major. For all majors other than chemistry and art, the requirements of the minor are as follows: eight courses including [CHM 160](#); [CHM 260](#); [CHM 270](#); [ART 112](#); one course from [ART 361](#), [362](#), or [363](#); [ARH 102](#); one additional 300-level (ARH) course; and one art conservation course that combines chemistry, art, and art history.

The requirements of the minor for a chemistry major are as follows: six courses including [CHM 270](#); [ART 112](#); one course from [ART 361](#), [362](#), or [363](#); [ARH 102](#); one additional 300-level (ARH) course; and one art conservation course that combines chemistry, art, and art history.

The requirements of the minor for an art major are as follows: six courses including [CHM 160](#); [CHM 260](#); [CHM 270](#); one course from [ART 361](#), [362](#), or [363](#); one additional 300-level (ARH) course; and one art conservation course that combines chemistry, art, and art history.

The art conservation course required for the minor can be satisfied with an independent study (typically [CHM 500/501](#) or [ARH 500/501](#)) or an internship. Students are advised to complete all other requirements for the minor first. Please note that for an internship or independent study to count towards the art conservation minor, it must be pre-approved by the program coordinators.

No more than two courses that count for the chemistry major or minor requirements may also fulfill the art conservation minor requirements.

No more than two courses that count for the art major or the art history minor may also fulfill the art conservation minor

requirements.

## ART EDUCATION

Classifications: Major

**Department Chair:** John Lambertson, Ph.D.

The Department of Art and Art History 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 and minors in Studio Art and Art History. Please see the Art page for more information.

**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. 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. After each 400-level studio, departmental faculty will critique the semester's work to prepare students for their Senior Art Show. Students will be advised to take specific courses or to work independently to correct any deficiencies and must receive faculty approval before exhibiting work.

NOTE: Students majoring in Studio Art or Art Education take three art history courses for their major, but may only count two of those for the minor. These students take four additional art history courses for the minor.

**AP Policy:** The Art and Art History 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.

**TEACHER CERTIFICATION:** Students may seek Specialty Education (grades PreK-12) Certification in Art by completing the Art Education major and an Education minor consisting of those courses required for Specialty Education (grades PreK-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.

## ART HISTORY

Classifications: Minor

**Department Chair:** John Lambertson, Ph.D.

The Department of Art and Art History 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 and minors in Studio Art and Art History. Please see the Art page for more information.

**ART HISTORY MINOR REQUIREMENTS:** Six courses: [ARH](#)

[101](#) and [102](#); any four 300-level ARH courses.

**AP Policy:** The Art and Art History 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.

### 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.

#### Prerequisites

None

### 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.

#### Prerequisites

None

### 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.

#### Prerequisites

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.

#### Prerequisites

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.

#### Prerequisites

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.

### Prerequisites

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.

### Prerequisites

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.

### Prerequisites

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.

### Prerequisites

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 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

None

## ASIAN STUDIES

Classifications: Minor

**Steering Committee:** Zheya Gai, Ph.D.; Ye Han, Ph.D.

**Program Directors:** Zheya Gai, Ph.D.

**MINOR REQUIREMENTS:** The minor requires five courses, which includes two Mandarin Chinese language courses, two non-language courses on Asia, and an additional course in Mandarin Chinese or an additional non-language course on Asia.

Students with a facility in Mandarin Chinese prior to their enrollment at the College (who are placed at CHN 208 and above through the placement test conducted by the Chinese program faculty) may complete the Asian Studies minor with five non-language courses without taking a language course. CHN 208, 309, and 310 may substitute for some of the non-language courses.

Students whose native language is an Asian language may petition the Director of Asian Studies program for exemption from the language requirement and complete the Asian Studies minor with five non-language courses without taking a language course.

Asian language courses taken by students while studying abroad in a W&J sponsored study abroad program can count as language courses for the minor.

*Language Courses in Mandarin Chinese:* [CHN 105](#), [106](#), [207](#), [208](#), [309](#), [310](#)

*Non-language Courses on Asia:* The non-language courses taken to satisfy the minor must be from at least two different disciplines (i.e., two different course prefixes).

- [CHN 275](#): *Introduction to Chinese Culture and Language*
- [HIS 151](#): *Asian Heritage*
- HIS 270: *Religion, Identity, and Politics in Asian History*
- HIS 370: *Empire and Asian Connections*
- [POL 231](#): *Politics of China*
- [POL 233](#): *Politics of East Asia*
- POL 250: *US-China Relations*
- [REL 106](#): *Eastern Religious Traditions*

- [REL 207: Introduction to Buddhism](#)

Possible course combination options for the minor: All entering first-year and transfer students in Chinese will receive language placement by Chinese program faculty. This placement determines in which language class they start.

For students who start in CHM 105:

- Option A: CHN 105, CHN 106, plus three non-language courses on Asia
- Option B: CHN 105, CHN 106, CHN 207, plus two non-language courses on Asia

For students who start in CHN 106:

- Option A: CHN 106, CHN 207, plus three non-language courses on Asia
- Option B: CHN 106, CHN 207, CHN 208, plus two non-language courses on Asia

For students who start in CHN 207:

- Option A: CHN 207, CHN 208, plus three non-language courses on Asia
- Option B: CHN 207, CHN 208, CHN 309, plus two non-language courses on Asia

For students who start in CHN 208:

- Option A: CHN 208, CHN 309, CHN 310, plus two non-language courses on Asia
- Option B: CHN 208, CHN 309, plus three non-language courses on Asia
- Option C: CHN 208, plus four non-language courses on Asia
- Option D: Take five non-language courses on Asia

For students who start in CHN 309:

- Option A: CHN 309, CHN 310, plus three non-language courses on Asia
- Option B: CHN 309, plus four non-language courses on Asia
- Option C: Take five non-language courses on Asia

## BIOCHEMISTRY

Classifications: Major

**Steering Committee:** Candy DeBerry, Ph.D.; Mark Harris, Ph.D.; Michael Leonard, Ph.D.; Kelly Lohr, Ph.D.; Nobunaka Matsuno, Ph.D.

**Program Directors:** Nobunaka Matsuno, Ph.D.

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 121](#), [131](#), [212](#), and [311](#); [CHM 160](#), [170](#), [260](#), and [270](#); [BCH 320](#) (or [CHM 360](#)), [333](#), and [401](#). In

addition, elect the equivalent of two courses from [NSC 300](#); [BIO 201](#), [235](#), [305](#), [314](#); [CHM 320](#), [345](#), [380](#), [385](#), [420](#); 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 121 and 131; 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 the lecture and employed in the laboratory component of the course.

#### Prerequisites

BIO 121 and 131; CHM 160, 170, 260, and 270 (or PHY 317); and MTH 111 (with a grade of C- or better)

### 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 121 and 131; 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 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

None

# BIOLOGICAL PHYSICS

Classifications: Major Emphasis

**Department Chair:** Cory Christenson, Ph.D.

Biological physics focuses on applying quantitative approaches from the physical sciences to investigate biological systems. Physical processes underlie many biological systems, ranging in scale from molecules to ecosystems. Physics principles shed light on processes such as the diffusion of bacteria, the electrostatics of nerve impulses, the microscopic motion of ions across cell membranes, and interplay between predators and prey in the largest ecosystems. Biological physics addresses problems similar to those found in biochemistry or molecular biology. The Biological Physics major emphasis allows students a quantitative understanding of the fundamental processes so they can gain new insight into problems in the life sciences and health professions, which are becoming increasingly technical. This emphasis prepares students for graduate study in a variety interdisciplinary physics, biology, or chemistry fields, or technical work in areas such as biomedical engineering.

**MAJOR EMPHASIS IN BIOLOGICAL PHYSICS:** [BIO 121](#), [131](#); [CHM 160](#), [170](#); [MTH 151](#) and [152](#); [PHY 101](#) or [107](#); [PHY 108](#), [209](#), [219](#), [220](#), [250](#), [327](#); [PHY 317](#) or [CHM 360](#); one 300-level PHY course; one of [BIO 201](#), [212](#), [311](#), [314](#), [NSC 300](#), [BCH 333](#). Capstone: [PHY 400](#) or [441/442](#) focusing on a relevant topic.

# BIOLOGY

Classifications: Major, Minor

**Faculty:** Ronald Bayline, Ph.D.; Thomas Contreras, Ph.D.; Candy DeBerry, Ph.D.; Casey Hansen, Ph.D.; Jason Kilgore, Ph.D.; Kelly Lohr, Ph.D.; James March, Ph.D.; Anne McGrain, Ph.D.; Anupama Shanmuganathan, Ph.D.; Kelly Weixel, Ph.D.

**Department Chair:** Thomas Contreras, Ph.D.

The Biology program engages students in an exciting and challenging environment where they master biological concepts and develop scientific competencies necessary to be critical thinkers, successful professionals, and responsible citizens.

Faculty embrace a student-centered approach in a nurturing environment that combines personalized advising, innovative curricular and extracurricular experiences, and research opportunities to promote students' personal and professional

development.

- Within the liberal arts curriculum, our students forge explicit connections between their education in the life sciences and their chosen careers and pursuits.
- As actively engaged scholars in their field, the Biology faculty lead students into the exploration of the life sciences through innovative and collaborative teaching methods, including classroom discussions, technology-enhanced learning, interdisciplinary collaborations, and laboratory and field experiences.
- Biology students become scientifically proficient by critically reading, discussing, and presenting primary literature; applying current research techniques in class research projects, independent studies, and internships; and developing their responsibility as biologists through outreach and service activities and clubs.
- Biology faculty strive to provide excellent opportunities for students by leading programs in specific fields such as pre-health, neuroscience, and biochemistry; contributing to the liberal arts curriculum; sustaining and developing new programs through grant writing and student recruitment; and providing contemporary and dedicated resources and facilities for biological research.
- Biology faculty mentor students as they navigate their way to success in their academic program and progress towards their professional goals.

Major emphases within Biomedical Science, Cell and Molecular Biology, and Conservation Biology are available for students interested in a particular subfield of biology.

We build lifelong relationships among faculty, students, and alumni that extend beyond the College through mentoring, work, and service opportunities. We are a community of scholars who share experiences, triumphs, and struggles.

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 major consists of a minimum of 11.5 courses and is designed to expose students to foundational concepts across the discipline and to allow flexibility in selecting advanced courses to fulfill each student's goal. All students should complete three foundational courses in Biology by the end of their third year. In addition, students take six upper-level biology electives and a primary literature review course. Majors must demonstrate mathematical proficiency at the pre-calculus level and complete a statistics course (MTH 125 or BIO/MTH 245) and also complete CHM 160 *Organic Chemistry*. The Biology Capstone consists of a research experience; additionally, a 30-hour Biology Community Engagement requirement must be completed with biology-related service activities that have been pre-approved by the department, such as volunteering in a hospital or cleaning local rivers. As part of the capstone, majors will also 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. Specific requirements for the major are listed below:

- Foundations in biology: [BIO 111](#), [BIO 121](#), and [BIO 131](#)
- Organic chemistry: [CHM 160](#)
- Upper-level biology electives: Five lab courses at the 200 and 300 level, of which two must be at the 300-level and can include [NSC 300](#) or [BCH 333](#).
- One additional BIO course at the 200-level or above. This may be fulfilled by a BIO course without a laboratory; or [BIO 245](#); or [BIO 412/500/501](#).
- Quantitative proficiency: Math placement score of 19 or higher, or [MTH 111](#); and [MTH 125](#) or [BIO/MTH 245](#)
- Primary literature review course: [BIO 401](#)(1/2 course) or [BCH 401](#)(1/2 course) or [NSC 400](#)
- Biology Capstone: Independent research experience in biology, fulfilled by completing [BIO 412](#) or [BIO 500/501](#) or an approved summer research internship followed by an on-campus presentation. The completion of a comprehensive standardized exam during the senior year is a part of the capstone for all majors.
- Biological Community Engagement: 30 hours of biologically-related service activity (or activities) approved by the department.

Note that students who major in biology cannot also major in neuroscience.

#### **MAJOR REQUIREMENTS WITH EMPHASIS IN**

**BIOMEDICAL SCIENCE:** The Biomedical Science major emphasis allows students who are Biology majors to have a solid understanding of biology in the context of medicine. This Biomedical Science emphasis is an ideal gateway for students intending to pursue the health professions and for those intending to pursue healthcare management, education, pharmaceutical/ biomedical sales and marketing, scientific communication or graduate research in biomedical science.

Students complete the requirements of the Biology major, with four of the electives chosen from specific lists.

- Two 200-level courses from the following: [BIO 201](#) (Genetics), [BIO 205](#) (Invertebrate Zoology), [BIO 209](#) (Vertebrate Anatomy), [BIO 212](#) (Cell Biology), [BIO 215](#) (Microbiology), [BIO 235](#) (Animal Physiology)
- Two 300-level courses from the following: [BIO 305](#) (Developmental Biology), [BIO 314](#) (Immunology), [BIO 318](#) (Medical microbiology), [BIO 351](#) (Virology), [BCH 333](#) (Biochemistry).

#### **MAJOR REQUIREMENTS WITH EMPHASIS IN CELL AND MOLECULAR BIOLOGY:**

The Cell and Molecular Biology major emphasis is focused on the study of the molecular basis of life. The emphasis is designed for biology majors to develop deeper theoretical knowledge and practical skills in the rapidly developing field of cell and molecular biology. It is suited for undergraduates who are interested in pursuing graduate studies with a molecular

biological focus, for pre-health students and for students interested in employment in the biotechnology industry.

Students complete the requirements of the Biology major, with four of the electives chosen from specific lists.

- Two courses from the following: [BIO 201](#) (Genetics), [BIO 212](#) (Cell Biology), [BIO 215](#) (Microbiology).
- Two courses from the following: [BIO 305](#) (Developmental Biology), [BIO 311](#) (Molecular Biology), [BIO 314](#) (Immunology), [BIO 317](#) (Genomics), [BIO 318](#) (Medical microbiology), [BIO 351](#) (Virology), [BCH 333](#) (Biochemistry).

#### **MAJOR REQUIREMENTS WITH EMPHASIS IN CONSERVATION BIOLOGY:**

The Conservation Biology major emphasis would be appropriate for any Biology major with an interest in ecology who wants to gain a greater understanding of biodiversity and its management. Students who complete the emphasis will gain a greater breadth of experience in course and field work related to ecology and conservation and will be better prepared for moving on to graduate studies in those fields.

Students complete the requirements of the Biology major, with four of the courses chosen as follows:

- [BIO 288](#) (Conservation Biology)
- [BIO 245](#) (Applied Statistics for the Life Sciences)
- Two courses from the following: [BIO 201](#) (Genetics), [BIO 205](#) (Invertebrate Zoology), [BIO 209](#) (Vertebrate Anatomy), [BIO 219](#) (Field Biology), [BIO 247](#) (Special Topics in Biology (relevant topic)), [BIO 250](#) (Plant Diversity), [BIO 306](#) (Animal Behavior), [BIO 320](#) (Ecology), [BIO 347](#) (Special Topics in Biology (relevant topic)), [BIO 350](#) (Environmental Plant Physiology).

**MINOR REQUIREMENTS:** The Biology minor consists of six courses. All students take the three foundational courses in Biology: [BIO 111](#), [BIO 121](#), and [BIO 131](#). In addition, students take three upper-level biology electives. Specific requirements for the minor are listed below:

- Foundations in biology: [BIO 111](#), [BIO 121](#), and [BIO 131](#)
- Upper-level biology electives: One 200-level BIO course with laboratory
- One 300-level BIO course with laboratory; or [NSC 300](#); or [BCH 333](#)
- One additional BIO course at the 200-level or above

**Note:** No more than two courses used to satisfy the requirements for another course of study may be used to satisfy the Biology minor. No more than one BIO course without a laboratory may be used to satisfy the Biology minor.

**PREREQUISITE POLICY:** When courses are required as prerequisites for BIO departmental courses, a grade of C- or better in the prerequisite course is required.

**TEACHER CERTIFICATION:** Students may seek Secondary Education (grades 7-12) Certification in Biology by completing the 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 [305](#) or [306](#); 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 125](#) 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 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 Biology major, the required Biology content area requirements, and the Education minor consisting of those courses required for Grades 4-8 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.

**AP Policy:** Students scoring a 4 or 5 on the AP Biology test will receive credit for BIO 100.

### **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 human biology, environmental issues, fitness and exercise, disease and malignancy, nutrition, 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*

#### **Prerequisites**

None

### **BIO111 - Foundations in Biology - Evolution and Biological Diversity**

In this course, students examine biological evolution by natural selection and the resulting structure and function of organisms. Students also examine biological processes across scales from populations to biomes. Through small collaborative projects, students will engage in the scientific process from the generation of observations and hypotheses to the communication of results to both scientific and lay audiences. The effects of humans on biodiversity and the role of science in society are emphasized through the examination of local case studies. This course includes a lab period.

*Three hours lecture, three hours lab*

#### **Prerequisites**

None

### **BIO114 - Topics in Biology**

Topics on various areas of current biological interest (e.g., genetics, evolution and society, horticulture). Does not include a laboratory.

#### **Prerequisites**

None

### **BIO121 - Foundations in Biology - Cell and Molecular Biology**

In this course, students will be introduced to the fundamental concepts of cell biology and molecular biology. Biological organization from macromolecules to membranes to organelles to cells will be examined in the context of structure-function relationships and biological evolution. The storage and flow of genetic information, and transformations of energy and matter in processes such as cellular respiration, will also be explored. Small collaborative research projects will engage students in the scientific process, from the generation of hypotheses to the communication of results to diverse audiences. The importance of understanding cell and molecular biology as the basis for biological research and medicine will be emphasized through the use of case studies and primary research articles. This course includes a lab period.

*Three hours lecture, three hours lab*

#### **Prerequisites**

None

### **BIO131 - Foundations in Biology: Organismal Biology**

This course is designed to address concepts in organismal biology from single-celled prokaryotes to multicellular eukaryotic plants and animals. The evolutionary context of organismal diversity will be explored as well as the relationship of organisms with their environments. Special emphasis is placed upon interrelationships among the structural levels, and topics discussed are chosen to illustrate the correlation of structural and functional properties at each level. The process of scientific inquiry will be practiced in the laboratory via collaborative research projects that explore structure-function relationships in model organisms culminating in a scientific manuscript. Students will also explore the ethical use of organisms in the laboratory setting. This course includes a lab period.

*Three hours lecture, three hours lab*

#### **Prerequisites**

BIO 111 or BIO 121 (with a grade of C- or better)

### **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 during the regular terms and in the summer. They are graded pass/fail. 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.

### Prerequisites

None

### BIO201 - Genetics

An introduction to Mendelian genetics, molecular genetics, population genetics, and quantitative 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 will include the opportunity to use various biological materials and organisms to design a research project, implement it, analyze the data, and present the results in poster format. In addition, students will complete other short investigations including case studies in genetics and cognitive genetics tutor programs designed to strengthen proficiency in genetics problem-solving.

*Offered: Spring term*

*Three hours lecture, three hours lab*

### Prerequisites

BIO 121 (with a grade of C- or better)

### 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: Alternating Fall terms*

*Three hours lecture, three hours lab*

### Prerequisites

BIO 111 or EVS 100 or EVS 101 (with a grade of C- or better)

### 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 the laboratory, students will perform thorough dissections of representative vertebrate species with an emphasis on mammalian systems.

*Offered: Spring term*

*Three hours lecture, three hours lab*

### Prerequisites

BIO 111 or 131 (with a grade of C- or better)

### 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 121 (with a grade of C- or better)

### BIO215 - Microbiology

This course is designed to expose students to many different aspects of basic and applied microbiology allowing them to glimpse the excitement of a dynamic scientific field. Emphasis in this course is on viruses as well as bacterial and archaeal cell structure, microbial physiology, diversity, evolution, stress responses, and pathogenesis of bacteria. The laboratory is guided inquiry-based and involves discovery and characterization of antibiotic-producing bacteria from the environment using microbiological, molecular and bioinformatics analyses.

*Offered: Spring term*

*Three hours lecture, three hours lab*

### Prerequisites

BIO 121; BIO 111 or 131 (with a grade of C- or better)

### BIO219 - 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 111 (with a grade of C- or better)

### **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 121 and 131 (with a grade of C- or better)

### **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*

*Course is not available to first-year students.*

#### **Prerequisites**

BIO 111 or BIO 121 or BIO 131 or PSY 101 (with a grade of C- or better)

### **BIO246 - Special Topics in Biology**

This special topics course provides an opportunity for students to study a particular area of biology not currently offered as a catalog course at the 200 level. The course does not include a laboratory component. Successful completion of this course would count toward the Biology major as a non-laboratory elective but would not count toward the Biology minor. Example of topics include Biomedical Case Studies, Cancer Biology, and Evolution of Development.

*Lecture only*

#### **Prerequisites**

BIO 111 or BIO 121 or BIO 131 (with a grade of C- or better); other course prerequisites may be determined by the instructor.

### **BIO247 - Special Topics in Biology**

This special topics course provides an opportunity for students to focus on a particular area of biology that is not currently offered as a catalog course at the 200 level. At this level, the course includes a laboratory component. Successful completion of

this course would count toward the Biology Major as an elective but would not count toward the Biology Minor.

*Three hours lecture, three hours lab*

#### **Prerequisites**

BIO 111 and 121 (with a grade of C- or better)

### **BIO250 - Plant Diversity**

In this course, students explore the morphologic and phylogenetic diversity of plants from nonvascular liverworts and mosses to the angiosperms. The lectures, labs, and field trips focus on the evolution of plants in their competition for limited resources and attempts to maximize reproduction. Students will use 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. This course includes a lab period.

#### **Prerequisites**

BIO 111 (with a grade of C- or better)

### **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: Alternating Spring terms*

*Three hours lecture, three hours lab*

#### **Prerequisites**

BIO 111 or EVS 100 or EVS 101 (with a grade of C- or better)

### **BIO305 - 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: Alternating Fall terms*

*Three hours lecture, three hours lab*

#### **Prerequisites**

BIO 131; BIO 201 or 212 or 235 (with a grade of C- or better)

### **BIO306 - 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 111; any 200 level BIO, EVS, NSC, or PSY course (with a grade of C- or better)

### 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 121; BIO 131; BIO 201 or 212 or 215 or BCH 333 (with a grade of C- or better)

### BIO314 - Immunology

This course has been designed to introduce the students to the vast, fascinating, and complex field of immunology from the physiological, cellular, molecular, and clinical perspectives. We will not only learn about the development, functioning, and regulation of the innate and adaptive immune system, but also consider applied topics such as microbial strategies of immune evasion, immunodeficiencies, hypersensitivities, autoimmune disorders, cancer immunology, transplantation immunology, and vaccines. Course instruction will include problem-solving, immunology lab techniques, case study-based discussion, and discussion of primary research articles in immunology.

*Offered: Alternating Fall*

*Two hours lecture, three hours lab*

### Prerequisites

BIO 121; BIO 201 or 212 or 215 or 235 or BCH 333 (with a grade of C- or better)

### 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.

*Offered: Alternating Spring*

*Three hours lecture, three hours lab*

### Prerequisites

BIO 111; BIO 121; BIO 131; BIO 201 or 212 or 215 or BCH 333 (with a grade of C- or better)

### BIO318 - Medical Microbiology

This course will focus on mechanisms by which microbes cause diseases and ways in which hosts respond and fight the infectious agents. Structure to function relationship of pathogenic determinants in various bacterial, viral, fungal, and protozoan pathogens will be described. Evolution of pathogens and emerging infectious diseases, response of pathogens to specific cues in the environment, and virulence strategies and their regulatory mechanisms will be analyzed. Clinical case studies and primary research articles will be discussed with special emphasis on understanding the principle and application of specific techniques that are used to study pathogens and pathogenesis. This course includes a lab period.

*Offered: Alternating Fall*

*Three hours lecture, three hours lab*

### Prerequisites

BIO 121; BIO 201 or 212 or 215 or 235 or BCH 333 (with a grade of C- or better)

### BIO320 - Ecology

Ecology is the scientific study of the processes influencing the distribution and abundance of organisms, interactions among organisms, and the transformation and flux of energy and matter. Students will explore this definition at a variety of spatial scales and will examine how ecological principles are used to address environmental problems. In the lab/field portion, students will practice the entire research process from proposal to manuscript by completing an independent project at the Abernathy Field Station.

*Offered: Alternating Spring terms*

*Three hours lecture, three hours lab*

### Prerequisites

BIO 111 and any 200 level BIO course, or EVS 101 and any 200 level EVS course (with a grade of C- or better)

### **BIO346 - Special Topics in Biology**

This special topics course provides an opportunity for students to study a particular area of biology not currently offered as a catalog course at the 300 level. The course does not include a laboratory component. Successful completion of this course would count toward the Biology Major or Minor as a non-laboratory elective. Examples of topics might include case studies in ecology and conservation, infectious disease, or phylogenetics.

*Lecture only*

#### **Prerequisites**

BIO 111 OR 121 OR 131; others may be determined by the instructor.

### **BIO347 - Special Topics in Biology**

This special topics course provides an opportunity for students to study a particular area of biology not currently offered as a catalog course at the 300 level. The course *will* include a laboratory component. Successful completion of this course would count towards the Biology Major or Minor as a 300-level laboratory elective. Examples of topics might include community ecology, molecular mechanisms of neurological disease, or research in cancer biology.

*Three hours lecture, three hours lab*

#### **Prerequisites**

BIO 111 OR 121 OR 131; others may be determined by the instructor.

### **BIO350 - Environmental Plant Physiology**

In this course, students learn how plants function in response to their changing environment through readings from key texts and primary literature, concept-driven lectures, exploratory laboratories, and an experimental research project using modern instrumentation. Students integrate principles from biology, chemistry, and physics to describe the maintenance of homeostasis and response to shifting environmental conditions through data-driven exercises. The course focuses on identifying, describing, and measuring key physiological processes, such as water relations, carbon exchange, energy balance, and nutrient partitioning, in varying environmental conditions. This course includes a lab period.

*Offered: Alternating Spring*

*Three hours lecture, three hours lab*

#### **Prerequisites**

BIO 111 and 121 and 131 and 250 (with a grade of C- or better)

### **BIO351 - Virology**

This course will focus on the fundamental mechanisms that are adopted by all viruses to replicate, survive and infect a host cell. The diversity of various classes of viruses will be studied. In particular, the molecular basis of alternative reproductive cycles from DNA and RNA viruses will be explored. The interactions of viruses with their hosts, the evolution of viruses, as well as disease mechanism and how to combat viral diseases will be

discussed through case studies and peer-reviewed articles. This course includes a lab period.

*Offered: Alternating Spring*

*Three hours lecture, three hours lab*

#### **Prerequisites**

BIO 111; BIO 121; BIO 131; BIO 201 or 212 or 215 or BCH 333 (with a grade of C- or better)

### **BIO401 - Biology Seminar**

In this course, students read, discuss, analyze, and critically evaluate information obtained from peer-reviewed primary research articles in the biological sciences. Techniques for reading primary research articles, understanding the experimental design, and evaluating the quality of the research will be emphasized. Scientific communication skills such as giving an effective oral presentation and discussing scientific findings will also be promoted. This discussion- and presentation-based seminar course will focus on a specific biology topic. Topics under discussion may vary from year to year. Students may take up to two BIO 401 courses if the topic of the seminar differs. However, only one BIO 401 course can be used to apply to their major requirements.

*(1/2 course; 2 credits)*

#### **Prerequisites**

BIO 111 and 121 and 131 (with a grade of C- or better), others may be determined by 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 111; BIO 121; BIO 131 (with a grade of C- or better), others may be determined by instructor)

### **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 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

None

## BIOMEDICAL SCIENCE

Classifications: Major Emphasis, Minor

**Department Chair:** Thomas Contreras, Ph.D.

The department of Biology offers a major emphasis and a minor in Biomedical Science.

The Biomedical Sciences major emphasis allows students who are Biology majors to have a solid understanding of biology in the context of medicine. This Biomedical Science emphasis is an ideal gateway for students intending to pursue the health professions and for those intending to pursue healthcare management, education, pharmaceutical/biomedical sales and marketing, scientific communication, or graduate research in biomedical science.

### BIOMEDICAL SCIENCE MAJOR EMPHASIS

**REQUIREMENTS:** Students complete the requirements of the Biology major, with four of the electives chosen from specific lists.

- Two 200-level courses from the following: [BIO 201](#) (Genetics), [BIO 205](#) (Invertebrate Zoology), [BIO 209](#) (Vertebrate Anatomy), [BIO 212](#) (Cell Biology), [BIO 215](#) (Microbiology), [BIO 235](#) (Animal Physiology).
- Two 300-level courses from the following: [BIO 305](#) (Developmental Biology), [BIO 314](#) (Immunology), [BIO 318](#) (Medical microbiology), [BIO 351](#) (Virology), [BCH 333](#) (Biochemistry).

The Biomedical Science minor will better allow students who are not biology majors to have a solid understanding of biology in the context of medicine. When paired with an appropriate major, the Biomedical Science minor is an ideal gateway for students intending to pursue the health professions and for those intending to pursue healthcare management, education, pharmaceutical/biomedical sales and marketing, or scientific communication.

### BIOMEDICAL SCIENCE MINOR REQUIREMENTS:

The Biomedical Science minor consists of six courses. All students complete two foundations courses in biology and four upper-level electives, one of which must be at the 300-level. Specific requirements for the minor are:

- [BIO 121](#)(Foundations in Biology: Cell and Molecular Biology)
- [BIO 131](#) (Foundations in Biology: Organismal Biology)
- Four courses from the following, at least one of which must be at the 300-level: [BIO 201](#) (Genetics), [BIO 205](#) (Invertebrate Zoology), [BIO 209](#) (Vertebrate Anatomy), [BIO 212](#) (Cell Biology), [BIO 215](#) (Microbiology), [BIO 235](#) (Animal Physiology), [BIO 305](#) (Developmental Biology), [BIO 314](#) (Immunology), [BIO 318](#) (Medical Microbiology), [BIO 351](#)

(Virology), [BCH 333](#) (Biochemistry).

This minor cannot be combined with a Biology minor or a Cell and Molecular Biology minor and is not open to students majoring in Biology.

## BUSINESS ADMINISTRATION

Classifications: Major, Minor

**Faculty:** Hsiao-Ching Kuo, Ph.D.; Robert Litchfield, Ph.D.; Max Miller, J.D., M.B.A.; Chris Olmstead, M.B.A.; Keun Jae Park, Ph.D.

**Department Chair:** Lori Galley, Ph.D.

The Business Administration program of the Department of Business provides students with the opportunity to develop fundamental knowledge in economics, accounting, finance, marketing, and management—disciplines essential to a career in management. Within the college's liberal arts environment, the program develops competency in business management while stressing critical thinking and analysis, as well as technology, writing, and oral communication skills.

**MAJOR REQUIREMENTS:** [ECN 101](#) and [102](#); [MTH 125](#); [ACC 211](#) and [212](#); [FIN 341](#); [BUS 201](#), [301](#), [307](#), [406](#); one from [BUS 315](#), [319](#), [326](#), [350](#), or [361](#); and two elective 300-level or 400-level business (BUS), entrepreneurship (ENT), accounting (ACC), or finance (FIN) courses.

**MINOR REQUIREMENTS:** [ECN 101](#); [MTH 125](#); [ACC 211](#); [FIN 341](#); [BUS 201](#), [301](#), [307](#)

**EMPHASES REQUIREMENTS:** Business Administration majors may complete one of several optional emphases, each providing a degree of specialization within a particular facet of the business. In addition to satisfying the requirements of the major, each emphasis requires the completion of specific courses and, in some cases, other requirements. Business (BUS), entrepreneurship (ENT), accounting (ACC), and finance (FIN) courses taken to satisfy the requirements of each emphasis may be used also to satisfy the 300-level or 400-level elective courses within the business major. Emphases and the requirements of each are as follows:

**ENTREPRENEURSHIP:** [ENT 301](#), [302](#), and [397](#)

**ACCOUNTING:** [ACC 321](#), [331](#) and one of the following: [332](#), [346](#), or [353](#)

**FINANCE:** [FIN 342](#), [344](#), and one additional 300-level or 400-level finance (FIN) course

**MARKETING:** [BUS 308](#), [309](#) and [311](#)

**HUMAN RESOURCE MANAGEMENT:** [BUS 319](#), [350](#); [PSY 101](#), [102](#), [295](#) and one of the following: [PSY 225](#), [235](#) or [330](#). In satisfying the requirements of the major, PSY 295 substitutes for one of the required 300-level or 400-level elective business (BUS) courses.

**INTERNATIONAL BUSINESS:** [BUS 361](#); a term of study abroad in a program approved for the emphasis; one business course completed as a portion of the study abroad experience; and completion of foreign language courses through the 309

course in a chosen language. In satisfying the requirements of the major, the required number of 300-level or 400-level elective business (BUS) courses is reduced from two to one, and the business course completed as a portion of the study abroad experience, designated as [BUS 397](#), completes the remaining elective course requirement.

The study abroad experience is a vital component of the emphasis in International Business and is provided through programs offered by institutions in several countries that are specifically approved for this emphasis. All of the approved programs offer business courses; some of these courses are approved for use in fulfilling the emphasis requirement of one business course completed as a portion of the study abroad experience. Additionally, some of these institutions offer internship opportunities that may be completed for credit. The Office of Study Abroad coordinates all arrangements for the study abroad experience.

#### **NOTES:**

**Transfer Courses:** In satisfying the requirements of a major, minor, or emphasis, the program requires that the following courses be completed at Washington & Jefferson College: [ACC 211](#) and [212](#); [FIN 341](#); and [BUS 201](#), [301](#), [307](#), and [406](#). Students may petition the program coordinator to waive this requirement in the case of special circumstances.

#### **Restrictions on Combinations of Courses of Study:**

Students majoring in business may not complete a second major in accounting or finance. Students majoring in business may not complete a minor in accounting, entrepreneurship, finance, or marketing. Students majoring in business who desire more specialization in accounting, entrepreneurship, finance, or marketing should complete the optional emphasis in that area offered within the context of the major. Students may complete only one of the optional emphases.

### **BUS201 - Entrepreneurship, Business & Society**

This course provides a conceptual foundation to students aiming to study entrepreneurship, business, and international business. Specifically, this course examines processes of venture creation, management of existing firms, and the interactions between business organizations and their local and global contexts in economic, social, and ethical terms.

#### **Prerequisites**

None

### **BUS297 - Topics in Business**

Topics courses are occasionally offered to broaden or enhance the business curriculum beyond the regular catalog offerings to include items of specialized interest or current or emerging events. Students' transcripts will indicate the titles of specific course offerings.

#### **Prerequisites**

None

### **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.

#### **Prerequisites**

ECN 101 or 102, BUS 201

### **BUS307 - Principles of 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.

#### **Prerequisites**

ECN 101 or 102, and BUS 201

### **BUS308 - Consumer Behavior**

This course provides an introduction to consumer behavior including examination of consumers' decision-making processes, factors that affect consumers' pre- and post-purchase attitude, and consumer behavior patterns.

#### **Prerequisites**

BUS 307

### **BUS309 - Marketing Research**

This course provides a fundamental understanding of marketing research including examination of marketing research process, qualitative and quantitative research, and the process of transforming raw data into meaningful managerial information.

#### **Prerequisites**

BUS 307

### **BUS311 - 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

### **BUS315 - Operations & Supply Chain 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

ECN 101, MTH 125, BUS 201

### **BUS316 - Design of Experiments**

A study of the design of experiments (DOE) wherein inferential statistical methods are used to separate the key variables affecting a process from the many trivial variables in a complex system. Includes applications to issues of product and service design, product quality, cost management, production control, statistical process control, inventory management, and maintenance/reliability.

### Prerequisites

BUS 315

### **BUS317 - Operations Research Methods**

A study of a wide variety of quantitative methods used to determine optimal or near optimal solutions related to the performance and/or efficiency of complex systems. Particular attention is given to linear programming and discrete event simulation, providing students a working knowledge of these methods and related software platforms.

### Prerequisites

BUS 315

### **BUS318 - Supply Chain Management**

An introduction to the broad range of integrated activities required to plan, control and execute the flow of products and services, from acquiring raw materials, through production and onto distribution to the final customer, in a cost-effective and environmentally sustainable manner.

### Prerequisites

BUS 315

### **BUS319 - Business Law I**

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.

### Prerequisites

ECN 101 or 102

### **BUS320 - Business Law II**

A study of advanced legal subjects, primarily in the area of administrative and constitutional law, as pertains 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 the application of the law.

### Prerequisites

BUS 319

### **BUS326 - Business Analytics**

An introduction to the concepts and tools used to analyze data in the context of business decision-making. Includes extensive use of spreadsheet software.

*Prerequisites: ACC 212 and MTH 125*

### Prerequisites

None

### **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.

### Prerequisites

ECN 101 or 102, BUS 201

### **BUS361 - International Business Environment**

An introduction to the environment of global business operations including an examination of international trade theory, international monetary and financial systems, and the role of political and legal systems, as well as of culture in shaping global business activity.

### Prerequisites

ECN 101 or 102

### **BUS397 - Special Topics in Business**

Special topics courses are occasionally offered to broaden or enhance the business curriculum beyond regular catalog offerings to include items of specialized interest or current or emerging events. Students' transcripts will indicate the titles of specific course offerings.

### Prerequisites

At least one of the following: ECN 101, 102, MTH 131, MTH 125, and/or ACC 211, and others according to topic

### **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 and 307, FIN 341

## BUS497 - Advanced Topics in Business

Topics in courses are occasionally offered to broaden or enhance the business curriculum beyond the regular catalog offerings to include items of specialized interest or current or emerging events. Students' transcripts will indicate the titles of specific course offerings.

### 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 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

None

## CELL AND MOLECULAR BIOLOGY

Classifications: Major Emphasis, Minor

**Department Chair:** Thomas Contreras, Ph.D.

The department of Biology offers a major emphasis and a minor in Cell and Molecular Biology.

The Cell and Molecular Biology major emphasis is focused on the study of the molecular basis of life. It is designed for biology majors to develop deeper theoretical knowledge and practical skills in the rapidly developing field of cell and molecular biology. It is suited for undergraduates who are interested in pursuing graduate studies with a molecular biological focus, for pre-health students and for students interested in employment in the biotechnology industry.

**CELL AND MOLECULAR BIOLOGY MAJOR EMPHASIS REQUIREMENTS:** Students complete the requirements of the Biology major, with four of the electives chosen from specific lists.

- Two courses from the following: [BIO 201](#) (Genetics), [BIO 212](#) (Cell Biology), [BIO 215](#) (Microbiology).
- Two courses from the following: [BIO 305](#) (Developmental Biology), [BIO 311](#) (Molecular Biology), [BIO 314](#) (Immunology),

[BIO 317](#) (Genomics), [BIO 318](#) (Medical Microbiology), [BIO 351](#) (Virology), [BCH 333](#) (Biochemistry).

The Cell and Molecular Biology minor is focused on the study of the molecular basis of life. The minor is designed for non-biology majors to develop theoretical knowledge and practical skills in the rapidly developing field of cell and molecular biology. It is suited for undergraduates who are interested in pursuing graduate studies with a molecular biological focus, for pre-health students and for students interested in employment in the biotechnology industry.

### CELL AND MOLECULAR BIOLOGY MINOR

**REQUIREMENTS:** The Cell and Molecular Biology minor consists of five courses. All students complete two foundations courses in biology and three upper-level electives, one of which must be at the 300-level. Specific requirements for the minor are listed below:

- [BIO 121](#) (Foundations in Biology: Cell and Molecular Biology)
- [BIO 131](#) (Foundations in Biology: Organismal Biology)
- Three courses from the following, of which one course must be at the 300-level: [BIO 201](#) (Genetics), [BIO 212](#) (Cell Biology), [BIO 215](#) (Microbiology), [BIO 305](#) (Developmental Biology), [BIO 311](#) (Molecular Biology), [BIO 314](#) (Immunology), [BIO 317](#) (Genomics), [BIO 318](#) (Medical microbiology), [BIO 351](#) (Virology), [BCH 333](#) (Biochemistry).

This minor cannot be combined with a Biology minor or a Biomedical Studies minor and is not open to students majoring in Biology.

## CHEMICAL PHYSICS

Classifications: Major Emphasis

**Department Chair:** Cory Christenson, Ph.D.

While the disciplines of chemistry and physics are closely related, the two provide complementary perspectives and approaches to understanding matter at the atomic/molecular level. Chemical Physics studies the structure and interactions of atoms, molecules, and compounds using core physics principles from thermodynamics, statistical mechanics, electrodynamics, and quantum mechanics. Whereas a physical-chemistry approach seeks to characterize macroscopic systems, the Chemical Physics major emphasis prepares students to understand the interactions between electrons and nuclei and the ways that these give rise to chemical and material properties. This interdisciplinary major emphasis prepares students for graduate study or technical work in diverse fields such as materials science, chemical engineering, and quantum computing/information.

**MAJOR EMPHASIS IN CHEMICAL PHYSICS:** [MTH 151](#), [MTH 152](#), [PHY 101](#) or [PHY 107](#), [PHY 108](#), [PHY 209](#), [PHY 219](#), [PHY 250](#), and these specific requirements for the emphasis: [CHM 160](#), [CHM 170](#), [CHM 260](#), [CHM 270](#); [PHY 317](#) or [CHM 360](#). Capstone: [PHY 400](#) or [PHY 441/442](#) focusing on a relevant topic, or [CHM 465](#).

## CHEMISTRY

Classifications: Major, Minor

**Faculty:** Jennifer Bayline, Ph.D.; Mark Harris, Ph.D.; Robbie Iulucci, Ph.D.; Michael Leonard, Ph.D.; Steven Malinak, Ph.D.; Nobunaka Matsuno, Ph.D.; Deborah Polvani, Ph.D.

**Department Chair:** Jennifer Bayline, Ph.D.

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 9.5 CHM courses, including [160](#), [170](#), [260](#), [270](#), [300](#) (or [BCH 333](#)), [360](#), [370](#), [380](#) or [385](#), [465](#) (1/2-course, 2 credits), 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](#), [370](#), [380](#) or [385](#), [355](#) or [460](#), [465](#) (1/2-course, 2 credits), [470](#), [500/501](#); [PHY 101](#) or [107](#), [PHY 102](#) or [108](#); [MTH 151](#) and [152](#), and one from [MTH 170](#), [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 consists of the successful completion of [CHM 465](#): Chemistry Seminar with a grade of C- or better.

**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.

### Prerequisites

None

## 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.

*Three hours lecture, three hours lab*

### Prerequisites

None

## CHM147 - Topics in Chemistry

(Half to full course as determined by instructor)

CHM 147 Connecting with Chemistry will be a course designated for, non-science majors that satisfies the scientific breadth, requirement. We will explore the role of chemicals in everyday, life. It includes a laboratory component in which students will, develop skills for assessing data. This offering will include a, unit of (1) "kitchen chemistry" in which students will explore, the chemical interactions that are so important to the flavor and, nutrition of food. (2) We will survey the function of chemistry, in the materials we use or consume in everyday life. (3) We will, study some "molecules of medicine" and how chemistry is central, to human health. And (4), we will consider the health of our, environment from a chemical perspective.

### Prerequisites

Determined by instructor

## CHM160 - Organic Chemistry: Structures & 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 principle 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. Three hours lecture, three hours lab.

### Prerequisites

None

## 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.

*Three hours lecture, three hours lab*

### Prerequisites

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 electrochemistry. The laboratory work is designed to reinforce concepts from the course and to introduce several laboratory techniques.

*Three hours lecture, three hours lab*

### 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.

*Three hours lecture, three hours lab*

### 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. 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 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

## CHM345 - Medicinal Chemistry

Medicinal chemistry is the application of chemical principles and research techniques to the design, development, and understanding of pharmaceutical agents. Bringing a drug to market requires expertise in a variety of fields (biochemistry, physiology, toxicology, marketing, finance, law, etc.), but the ultimate product delivered is the drug itself - typically an organic molecule. Hence, medicinal chemistry draws heavily on organic chemistry and physical chemistry as well as on biological and biochemical principles. This course will examine basic principles of drug discovery and design and will introduce students to pharmacology. Students will gain detailed knowledge of the chemistry of a few selected drug molecules.

### Prerequisites

CHM 160, 170, 260, and 270; BIO 121 or CHM 300

## 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

## CHM355 - Materials Chemistry

Materials Chemistry will explore many of the fundamental relationships between a material's chemical structure and the subsequent interesting and useful properties that result. In order for advances in electronic, magnetic, optical, and other niche applications to be made, an understanding of the structure-property relationship in these materials is crucial. This course will emphasize inorganic systems, and topics will include

descriptions of various modern inorganic solid-state materials, polymers, and coordination compounds in conjunction with their unique properties; synthesis strategies; current characterization techniques; and discussions about the research and theory that support the application of materials in our world.

### Prerequisites

CHM 160, CHM 170, CHM 260, CHM 270

## 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, 270, MTH 151, and 152 (with a grade of C- or better in each); and PHY 101 or 107 as a pre- or co-requisite

## CHM370 - Quantum Chemistry

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; and PHY 102 or 108 as a pre- or co-requisite

## CHM380 - Synthesis Laboratory

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

## CHM385 - Chemical Measurements Laboratory

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; MTH 151; and PHY 101 or 107, PHY 102 or 108

## 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 and PHY 102 or 108

## 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

## CHM465 - Chemistry Seminar

(2-credit 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 prerequisite and either CHM 300 or BCH 333 as a 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, and 270; MTH 151 and 152; and PHY 101 or 107, PHY 102 or 108; and either CHM 360 or 370 as a pre- or co-requisite

## 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 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

None

## CHILD DEVELOPMENT AND EDUCATION

Classifications: Major

**Faculty:** David Bunting; Kristin Nelson, Ph.D.

**Department Chair:** Kristin Nelson, Ph.D.

Child Development and Education is an interdepartmental 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 Certification in grades PreK-4 and/or Grades 4-8 for Language Arts or Mathematics or Science or Social Studies. Special Education PreK-12 is an available option for PreK-4 and Grades 4-8 certification candidates majoring in Child Development and Education.

**MAJOR REQUIREMENTS:** All students must successfully complete a minimum of 13 courses in psychology and education plus a capstone experience. Psychology: [PSY 101](#) (must be taken at W&J), [102](#), [225](#), [265](#), [275](#); Education: [EDU 201](#), [207](#), [301](#), [302](#), [303](#), [304](#), and either [PSY 330](#) (non-certification track only) or [EDU 403](#) (either track).

**CAPSTONE EXPERIENCE:** [EDU 406](#) and [407](#) plus [EDU 350](#) for certification or [408](#) and [409](#) for non-certification.

**CERTIFICATION AREAS:** Students seeking any teacher certification must also complete the Certification Program Requirements. *Online courses are not accepted in the certification or education program.* See the [Education \(Teacher Certification\)](#) section of the catalog for more information.

**Early Childhood Certification in grades PreK-4:** Students seeking certification to teach at the early childhood level in grades 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 courses ([MTH 123](#) and [124](#)), one history course ([HIS 201](#)), one geography course

([EDU 205](#)), [PHA/PHW 200](#), and two approved science courses with one of these courses designated as a SCIENTIFIC breadth of study course for certification. For more information please see *Handbook for Students Seeking Certification to Teach* available in the W&J Education Office.

**Grades 4-8:** Students majoring in Child Development and Education who wish to seek Grades 4-8 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 OR take a series of courses identified by the Math department for Grades 4-8. See the [Mathematics](#) catalog page for details.

See the catalog section for the appropriate discipline for the details of the minor requirements. The other option for certifying in Grades 4-8 involves majoring in a discipline and completing a selection of education and psychology courses ([PSY 101](#), [PSY 102](#), [PSY 265](#), [PSY 275](#), [EDU 201](#), [EDU 207](#), [EDU 301](#), [EDU 302](#) (or [EDU 303](#) for language arts), [EDU 350](#), [EDU 406](#), and [EDU 407](#)). See the sections of the catalog for the appropriate discipline and [Education \(Teacher Certification\)](#) for more information about this option.

**Special Education PreK-12:** Students who would like to add Special Education as a dual certification for PreK-12 to their certification area(s) in either PreK-4 or Grades 4-8 need to complete additional designated coursework and program requirements in special education to qualifying for dual certification in Special Education PreK-12. The required courses are [EDU 221](#), [EDU 250](#), [EDU 309](#), [EDU 321](#), and [PHA/PHW 200](#). For more information, please see *Handbook for Students Seeking Certification to Teach* available in the W&J Education Office.

## CHINESE

Classifications: Minor

**Faculty:** Ye Han, Ph.D.

**Department Chair:** Katherine Ternes, Ph.D.

The Department of Modern Languages offers a minor in Chinese language. The Chinese program seeks to immerse students in the Chinese language and the practices and perspectives of cultures that are part of the Chinese-speaking world. Students will gain the skills and knowledge necessary to communicate and interact appropriately in Chinese-speaking parts of the world. This is accomplished through immersing students in culturally authentic contexts both in and out of the classroom. Linguistic and sociolinguistic skills are integrated with critical reading at all levels of language instruction. Students who complete this course of study will be better able to participate actively and meaningfully in an increasingly interconnected world.

**MINOR REQUIREMENTS:** Chinese minor requirements vary according to entry-level, as determined through the placement procedure. Because of the varying requirements for completing a minor in Chinese, it is to the student's advantage to begin at

the highest level possible, usually CHN 207 or CHN 208. However, students with very limited or no background in Chinese will begin their studies with CHN 105 or CHN 106. No course taught in English may count toward the minor.

Students who begin in 105 will take seven classes, including [105](#), [106](#), [207](#), [208](#), [309](#), [310](#), and one 400-level.

Students who begin in 106 will take six classes, including [106](#), [207](#), [208](#), [309](#), [310](#), and one 400-level.

Students who begin in 207 will take five classes, including [207](#), [208](#), [309](#), [310](#), and one 400-level.

Students who begin in 208 will take four classes, including [208](#), [309](#), [310](#), and one 400-level course.

Students who begin in 309 or 310 can petition the Chair of Modern Languages for approval of fulfillment of the minor upon completion of four advanced-level courses. A maximum of two advanced-level courses may be transferred into W&J, per approval of the program coordinator, from other institutions, to count towards this minor. Students could **either** take credit-bearing courses from an institution in a country where the target language is spoken (in this case China), **or** from an institution from any country (including the U.S.) that offers the required advanced-level courses.

Students who begin at the 400-level 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.

**PLACEMENT PROCEDURES:** All entering freshmen with prior experience in Chinese will receive language placement by program faculty. This placement will determine their first course in the sequence. 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.

### CHN105 - Elementary Chinese I

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.*

#### Prerequisites

CHN 105 for CHN 106

### CHN106 - Elementary Chinese 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.*

### Prerequisites

CHN 105 for CHN 106

## CHN207 - Intermediate I

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.*

### Prerequisites

CHN 106 for 207; CHN 207 for 208

## CHN208 - Intermediate 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.*

### Prerequisites

CHN 106 for 207; CHN 207 for 208

## CHN275 - An Introduction of Chinese Culture and Language

A study of the relationships between Chinese culture and language through the examination of the Chinese people's family relationships and everyday lives. In this course, the term "Chinese community" broadly encompasses residents of Mainland China, Taiwan, Hong Kong, Singapore as well as overseas Chinese communities, where Chinese culture is practiced and preserved, and where the Chinese language (including various dialects) is spoken. In addition to the course textbook, other sources will be studied, including documentary films, popular cinema, television shows, literature, music, news and interviews. This course is taught in English.

### Prerequisites

None

## 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.*

### Prerequisites

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 emphasis on reading, speaking, and writing. A variety of texts, websites, and selected videos serve as departure points for daily discussions, assignments, and presentations. Included in the course are reviews of grammar topics. Taught largely in Chinese.

### Prerequisites

CHN 309, or the permission of the instructor

## CHN450 - Topics in Chinese Literature and Culture

This course is designed to deepen students' understanding and appreciation of Chinese language and culture through the study of selected masterpieces of Chinese literature. The topic, such as 17th-century Chinese poetry, the 18<sup>th</sup>-century Chinese novel, or Modern Chinese society and culture, vary from year to year and will be published in the preregistration bulletin.

### Prerequisites

CHN 310 or permission of the instructor

## CHN500, 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 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

None

## COMMUNICATION ARTS

Classifications: Major, Minor

**Faculty:** Stevie Berberick, Ph.D.; Melissa Cook, Ph.D.; Nicholas Maradin, Ph.D.; Karin Maresh, Ph.D.; Majd Mariam, Ph.D.; Daniel Shaw

**Department Chair:** Karin Maresh, Ph.D.

The mission of the Department of Communication Arts is to develop life-long learners as global citizens determined to build productive lives, fruitful careers, and vibrant communities. We develop habits of perception and expression that guide one

toward the rewards of ethical human communication through study in the disciplines of rhetoric, theatre, media studies, and public relations. Therefore, the Department's curriculum and co-curricular offerings expose W&J students to interrelated experiences that provide historical insights, theoretical literacy, and practical opportunities in the communication arts. We faculty work collectively to foster intellectual development, enhance critical thought, improve student performance, and empower students to thrive in local and global communities.

The Department of Communication Arts offers a major and minor in Communication Arts and a minor in Theatre. The major can be general or focused toward one of three specific areas: theatre, public relations, or media studies.

As a general area of study communication arts positions students to do the following: appreciate diverse cultures and communication styles; create informative messages, persuasive arguments, and engaging performances; and carefully analyze communication texts and performances. Study of the similarities and differences between live and mediated communication, as well as a range of theoretical perspectives on human interaction, is intended to foster an expansive view of humanity and an ability to adapt to and participate in an array of communities.

The emphasis in Theatre is designed to enable students to participate knowledgeably in multiple aspects of the creation of works performed before a live audience. Students are encouraged to gain an appreciation for and develop skills in the writing, staging, performance, and analysis of theatrical productions, with special attention to relationships among artists, audiences, and communities.

The emphasis in Public Relations (PR) will enable students to approach PR in a manner that links communication with an organization's values, missions, and goals. We need to understand not only *how* to be successful in PR, but also understand the *why* behind our actions. Students will be motivated to think about the interplay of the marketplace and other institutions that shape their lives. The emphasis is designed to engage the student as part of a community of inquirers—people with the potential to think critically and impact the world in a constructive way. Students will prepare professional portfolio pieces to enter industry or graduate school.

The emphasis in Media Studies aims to prepare students to ask and answer questions about media as “cultural industries” that mirror society on local, national, and global levels. Students will consider how media inform us about values and norms, seeking answers to questions such as: what role media ownership plays in content creation; what does media consumption tell us about the self and others; and what does ethical media production look like given potentiality for global reach on digital platforms? The theoretical and critical orientation of the emphasis may be complemented by select courses available throughout the College, internship opportunities in the community, and various project assignments in these media courses.

The Department of Communication Arts contributes to interdisciplinary programs in Conflict and Resolution Studies,

Gender and Women's Studies, and Professional Writing.

The Department of Communication Arts offers credit and non-credit opportunities for creative expression to all W&J students. One-credit practica in theatre ([COM 252](#)) and radio ([COM 242](#)) are available each semester, and each course may be taken up to four times.

The department stages a theatrical production each semester, with auditions held early in the term. Auditions are open to all W&J students. For more information about getting involved with theatre productions, contact the department chair or join the W&J Student Theatre Company.

Participation in the WNJR radio station is also available to all W&J students. After a meeting with Dr. Nick Maradin (WNJR General Manager) and completion of brief written and hands-on tests, a student can host a radio show either alone or with a co-host. For more information about WNJR visit [wnjr.org](http://wnjr.org) and contact Dr. Maradin.

**COMMUNICATION ARTS MAJOR REQUIREMENTS:** A communication arts major requires 10 courses total. [COM 101](#); [COM 102](#); [COM 103](#); [COM 221](#); two courses from any COM 200-level which may include [COM 242](#) (must be taken four times to count as one four-credit course), [COM 252](#) (must be taken four times to count as one four-credit course), [CIS 245](#), [CIS 265](#), [CIS 271](#) or [CIS 275](#) (only one CIS course may count toward major); [COM 301](#); two courses from any COM 300-level; and [COM 401](#).

**COMMUNICATION ARTS MAJOR WITH A THEATRE EMPHASIS REQUIREMENTS:** A communication arts major with an emphasis in theatre requires 10.5 courses total. [COM 101](#); [COM 102](#); [COM 103](#); [COM 211](#); [COM 251](#); two offerings of the 1/4-course (1 credit) [COM 252](#); one 200-level COM elective, or [COM 242](#) (must be taken four times to count as one 4-credit course); [COM 301](#); [COM 351](#); [COM 355](#); and [COM 401](#). It is highly recommended that [COM 221](#) be taken in addition to the 10.5 courses.

**COMMUNICATION ARTS MAJOR WITH A PUBLIC RELATIONS EMPHASIS REQUIREMENTS:** A communication arts major with an emphasis in public relations requires 10 courses total. [COM 101](#); [COM 102](#); [COM 103](#); [COM 221](#); [COM 281](#); one 200-level COM elective which may include [COM 242](#) (must be taken four times to count as one four-credit course), [COM 252](#) (must be taken four times to count as one four-credit course), [CIS 245](#), [CIS 265](#), [CIS 271](#) or [CIS 275](#) (only one CIS course may count toward major); [COM 301](#); [COM 381](#); [COM 382](#); and [COM 401](#).

**COMMUNICATION ARTS MAJOR WITH A MEDIA STUDIES EMPHASIS REQUIREMENTS:** A communication arts major with an emphasis in media studies requires 10 courses total. [COM 101](#); [COM 102](#); [COM 103](#); [COM 221](#); [COM 230](#); [COM 261](#) or [CIS 265](#); [COM 301](#); [COM 345](#); [COM 321](#) or [COM 361](#); and [COM 401](#).

**COMMUNICATION ARTS MINOR REQUIREMENTS:** A communication arts minor requires six courses total. Two courses from [COM 101](#), [COM 102](#), and [COM 103](#); two courses from COM 200-level which may include [COM 242](#) (must be taken four times to count as one four-credit course), [COM 252](#) (must be taken four times to count as one four-credit course), [CIS 245](#), [CIS 265](#), [CIS](#)

[271](#) or [CIS 275](#) (only one CIS course may count toward minor); and two courses from COM 300-level.

**THEATRE MINOR REQUIREMENTS:** A minor in theatre requires six courses total. [COM 102](#), [COM 211](#), [COM 251](#), two offerings of the 1/4-course (1 credit) [COM 252](#), the equivalent of a 1/2-course (two more credits) at the 200-level within the Communication Arts offerings, [COM 355](#), and one other 300-level theatre course within the COM offerings.

### COM101 - Introduction to Rhetoric and Com

This course is an introduction to communication, as a field and rhetoric as a discipline. Rhetoric, began over two thousand years ago as the study of, citizenship through oral persuasion, and in the, past century has broadened into an examination of, how humans shape social realities through the use, of symbols. The course also introduces students, to theories that contradict the common perception, of communication as information exchange, or, language as a transparent medium for ideas., Instead, communication is investigated as a, central human activity that simultaneously opens, and closes doors of possibility.

#### Prerequisites

None

### COM102 - Introduction to Theatre

An introduction to the art, practice, and theories of the ancient discipline of theatre and the more recent discipline of film, as well as how these disciplines connect to and influence one another. This course also focuses on the relationships between and the collaboration amongst artists and audiences, as well as the more practical matter of learning how to read and analyze a dramatic text, both written and performed live and on film.

#### Prerequisites

None

### COM103 - Introduction to Media Studies

A survey of the complex and rapidly shifting world of media production and consumption, with particular emphasis on how media both shapes and is shaped by the cultural climate in which it is situated. Through intra-disciplinary exploration of newspapers, film, radio, television, and the Internet, this course seeks to answer questions regarding matters of the media and ethical challenges. This course draws from various disciplines, including: communication arts, history, economics, cultural studies, and gender studies. Ultimately, we will analyze what our most powerful contemporary media is, where it came from, and the effects it may have on self and society.

#### Prerequisites

None

### COM201 - Historical Studies in Communication Arts

Historical Studies in the Communication Arts is a course whose content changes from semester to semester, in that it explores different historical periods through the lens of a given instructor

whose expertise determines the focus. This course explores the discipline of history through different modes of communication that have developed over time. Grounded in the study of communication, the course explores the social, cultural and technological aspects of the era under consideration.

#### Prerequisites

None

### COM211 - Acting: Improvisation, Analysis, and Performance

This course examines the theories and methodologies of the actor's technique. Analysis of dramatic texts, performance assignments, and improvisation prepare the student to make intelligent, informed, and creative decisions in bringing dramatic characters to life on the stage and screen.

#### Prerequisites

None

### COM221 - Public Speaking

This course is an introduction to theory and practice of oral rhetoric. Exposition, narration, and argument are studied and practiced as methods for influencing audiences and contributing to communities.

#### Prerequisites

None

### COM230 - Journalism

This course covers the climate of contemporary journalism and, to a lesser extent, photojournalism. Special attention is paid to critical news literacy and journalism/reporting ethics. Students will complete various types of news stories over the course of the semester, such as feature stories, event coverage, research stories, and profiles. This course will also discuss the history of journalism and the import of fair reporting practices in regards to democratic aims.

#### Prerequisites

None

### COM242 - Radio Performance or Product

This course allows the student to explore self-expression and community involvement in the context of a noncommercial radio station. With each instance of the course, the student must pass the associated training level. This course may be taken no more than four times. NOTE: this is a one-credit course.

#### Prerequisites

None

### COM251 - Stagecraft: Theatre Prod & Design

This course is an introductory studio in technical production and design. It examines the behind-the-scene aspects of public presentations, providing students with relevant experiences. Students observe and demonstrate creative problem solving

through artistic collaboration. Students examine contemporary practices in production design and implementation, their function as non-verbal expressions, and their effect on intended audiences.

### Prerequisites

None

## COM252 - Theatre Performance or Production

This course is a practicum in the theatre arts. The student assumes some role in a departmental production; e.g., actor, stage manager, stage hand, etc. Overseen by members of the departmental faculty, students are expected to perform in a professional manner, being present, prepared and ready to work at all times. This course may be taken no more than four times. NOTE: this is a one-credit course.

### Prerequisites

None

## COM261 - Film Form and Genre

This course is an overview of narrative film as an artistic form and cultural practice. Students examine relationships between image and reality, as well as relationships between artistic process, social meaning, and film genres.

### Prerequisites

None

## COM281 - Introduction to Public Relations

An examination of the history, theory, ethics, and best practice of public relations. This course will review the history of the public relations industry and discuss how it converged into integrated marketing communications in the mid-1990s. Additionally, we will discuss the functions and responsibilities of public relations practitioners as well as best practices.

### Prerequisites

COM 101

## COM291 - Special Topics in Communication Arts

A course exploring a particular topic in communication arts not covered in regular Catalog courses.

### Prerequisites

None

## COM301 - Research Methods in Communication Arts

This course is an overview of methods and practices of primary and secondary research in rhetoric, media, and theatre. Students learn how to discover, assess, and use secondary and primary research in print and digital forms for literature reviews. Primary research includes interview and observation methodologies. Serious research is necessary for understanding the contexts of texts and performances, for building persuasive arguments, and

for making useful contributions to a community. This course is a prerequisite for all other 300 and 400 level communication arts courses.

### Prerequisites

One of the following: COM 101, COM 102, COM 111, or COM 112

## COM311 - Advanced Public Speaking

This course builds on the concepts and skills encountered in Public Speaking, with greater attention to rhetoric as the foundational discipline for this art. The course includes presentations informed by critical examination of oral and visual communication, civic and commercial spheres, gender, race, and social media as factors that shape rhetorical action.

### Prerequisites

COM 301 Research Methods in Communication Arts (or equivalent for non-majors/minors); and COM 221 Public Speaking

## COM321 - Cultural Studies in Communication Arts

A thematic course designed to provide advanced study in theories and critical materials central to cultural studies in theatre, rhetoric, film, and/or audio. Examples include topics such as Gender in Theatre and Film, Cultural Study of Sound, and Alternatives to the Western Rhetorical Tradition.

### Prerequisites

COM 301

## COM341 - Radio Drama and Documentary

This course is an advanced laboratory in audio theory and performance, enabling students to create live and recorded audio dramas and documentaries for broadcast and podcast. Students examine the history and literature of audio drama and documentary and, in the production phase, will participate in all areas of technical and creative production. Throughout the course, a major concern will be the creation of audio artifacts that connect the individual student to a community.

### Prerequisites

COM 301; and COM 211 or COM 241

## COM345 - Political Economy of Media

Political Economy of Media provides a critical look at the political economy of mass media systems within the US and globally, with special consideration to media ownership and audience labor in the digital age. We will look at specific theoretical approaches of political economy and analyze the role of media in relation to capitalism. On this end, we will explore how contemporary capitalism functions; the role of advertising within the media; the structure and organization of social media, film, television, music, magazines, and newspapers; and ways in which media encourage or stifle democracy. In addition, we will consider the social ramifications of a culture of mass mediation and omnipresent advertisements.

## Prerequisites

COM 301

## COM351 - Writing for Stage and Screen

This course is designed to teach the fundamentals of playwriting and screenwriting to students who write a series of exercises, scenes, and short dramatic pieces for stage and screen. First the course focuses on the language of the playwright and dramatic action; and second, on the language of the screenplay and telling stories with pictures.

## Prerequisites

COM 301; and COM 261 or COM 271

## COM355 - Theatre Direction and Management

This course examines the theories, methodologies, and practice of the theatre director and stage manager. Textual analysis, casting and staging short scripts, and hands-on examination of the organization typically used for a theatre production will prepare students to effectively communicate with a production team in order to bring a text to life for an audience.

## Prerequisites

COM 102

## COM361 - Film in Context

An examination of motion pictures as cultural artifacts, shapers of society, and modes of discourse. Film in Context is a topics course that examines a group of films organized around a subject area (war, politics, crime, gender roles), an historical era (the Depression, the Holocaust, Post-Watergate), or a particular filmmaker (Hitchcock, Scorsese, Kurosawa, etc.). 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.

## Prerequisites

COM 261

## COM381 - Public Relations Research & Strategies

An introduction to the forms of writing for internal and external audiences, including the mass media, in a professional Public Relations (PR) environment. Students learn research processes in the PR industry in order to communicate effectively with stakeholders. They also learn to collect and analyze data in a manner that informs PR strategies. Components of the campaign may be used for a student's professional portfolio.

## Prerequisites

COM 281

## COM382 - Public Relations Campaigns

A practical experience in recognizing and preparing the components of a valuable and creative public relations campaign.

Students compile research that informs decisions in preparing a mock creative integrated marketing communications campaign. Components of the campaign may be used for a student's professional portfolio.

## Prerequisites

COM 281 and COM 381

## COM391 - Advanced Topics in Communication Arts

An advanced level course exploring a particular topic in communication arts not covered in regular catalog courses, with special emphasis on more extensive consideration of theory and/or skills encountered in introductory or mid-level courses.

## Prerequisites

COM 301

## COM401 - Senior Capstone

This course requires seniors to demonstrate proficiency in the communication arts major. To that end, they must speak, write, and use technology in class in preparation of presenting a final capstone that exhibits their abilities in those three areas. Each student will write a thesis proposal, which must be approved by the course instructor. A student may present a proposal for another sort of project, but this sort must be reviewed and approved by the department faculty in the semester prior to the Senior Capstone in order to give the student more time to work on the project. Examples of projects include: a radio drama or documentary, a short film, a theatre project such as a one-act play, a public relations campaign, a script or acting performance.

In addition to the final thesis or project, each student will construct a poster that distills his or her thesis or project and will present that poster during the College's poster session. Student projects will be presented at the end of the semester. Student thesis papers will be synthesized into a panel presentation at the end of the semester. The course itself will offer a series of reading, writing, and speaking assignments that lead the student to the completion of his or her final thesis or project.

## Prerequisites

COM 301; at least one other 300 level COM course

# COMPUTER SCIENCE

Classifications: Major Emphasis

**Department Chair:** Amanda Holland-Minkley, Ph.D.

The emphasis in Computer Science is available to [Computing and Information Studies](#) majors. It is designed for students intending to pursue graduate work focused on the foundational and theoretical underpinnings of the computing sciences.

**MAJOR REQUIREMENTS WITH EMPHASIS IN COMPUTER SCIENCE:** Students complete the requirements of the CIS major, with one of their electives being [CIS 320](#) and one being either [CIS 230](#) or [CIS 241](#) or [CIS 341](#). Additionally, students must take [MTH 151](#), [MTH 152](#), [MTH 211](#), [MTH 217](#) and one of [MTH 311](#), [MTH 330](#), or

### [MTH 361.](#)

Students with an interest in a particular subfield within computing are encouraged to consider an emphasis in the CIS major. Students may only declare a single emphasis in the CIS major. Majors should work closely with their advisor to select a path or emphasis through the curriculum that best fits their long-term career or graduate study goals.

## COMPUTING & INFORMATION STUDIES

Classifications: Major, Minor

**Faculty:** Samuel Fee, Ph.D.; Charles Hannon, Ph.D.; Amanda Holland-Minkley, Ph.D.; John Ladd, Ph.D.; Rebecca Rapp, Ph.D.

**Department Chair:** Amanda Holland-Minkley, Ph.D.

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 an emphasis on the CIS major. The *Computer Science* emphasis is designed for students intending to pursue graduate work focused on the foundational and theoretical underpinnings of the computing sciences. The *Data Science* emphasis focuses on the use of computer modeling, visualization, and analysis over large data sets to solve complex problem-solving tasks. The *Digital Media* emphasis stresses visual literacy and creative problem solving and focuses on how people communicate meaning through innovative contexts capitalizing on various digital media. The *Interaction Design* emphasis highlights the issues involved in designing computing systems in a human-centric manner and focuses on the theories and techniques involved in developing effective interfaces for information systems. The *Web and Mobile Technologies* emphasis is designed for students with an intended career path in web and mobile application development and focuses on both design issues and production and implementation issues central to delivering content through these media. Note that students may only declare a single emphasis to the CIS major.

Students majoring in other fields looking for a single computing course to explore the discipline or develop technical skills to complement their studies are encouraged to consider [CIS 100](#), [CIS 105](#), [CIS 110](#), [CIS 112](#), [CIS 160](#), [CIS 230](#), [CIS 241](#), [CIS 245](#), [CIS 265](#), [CIS 271](#), [CIS 275](#), or [CIS 280](#).

**MAJOR REQUIREMENTS:** 11 CIS courses, including [CIS 100](#), [112](#), [220](#), [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.

**MAJOR REQUIREMENTS WITH EMPHASIS IN COMPUTER SCIENCE:** Students complete the requirements of the CIS major, with one of their electives being [CIS 320](#) and one being either [CIS 230](#) or [CIS 241](#) or [CIS 341](#). Additionally, students must take [MTH 151](#), [MTH 152](#), [MTH 211](#), [MTH 217](#), and one of [MTH 311](#), [MTH 330](#), or [MTH 361](#).

**MAJOR REQUIREMENTS WITH EMPHASIS IN DATA SCIENCE:** Students complete the requirements of the CIS major, with at least three of their five electives drawn from [CIS 230](#), [CIS 241](#), [CIS 245](#), [CIS 320](#), or [CIS 341](#). Some offerings of [CIS 297](#) or [CIS 397](#) may also be designated as counting towards the Data Science emphasis.

**MAJOR REQUIREMENTS WITH EMPHASIS IN DIGITAL MEDIA:** Students complete the requirements of the CIS major, with at least three of their five electives drawn from [CIS 265](#), [CIS 275](#), [CIS 361](#), or [CIS 375](#). Some offerings of [CIS 297](#) or [CIS 397](#) may also be designated as counting towards the Digital Media emphasis.

**MAJOR REQUIREMENTS WITH EMPHASIS IN INTERACTION DESIGN:** Students complete the requirements of the CIS major, with one of their electives being [CIS 301](#) and at least two of their remaining electives drawn from [CIS 105](#), [CIS 245](#), [CIS 275](#), or [CIS 375](#). Some offerings of [CIS 297](#) or [CIS 397](#) may also be designated as counting towards the Interactive Design emphasis.

**MAJOR REQUIREMENTS WITH EMPHASIS IN WEB AND MOBILE TECHNOLOGIES:** Students complete the requirements of the CIS major, with one of their electives being [CIS 275](#) and at least two of their remaining electives drawn from [CIS 245](#), [CIS 280](#), or [CIS 375](#). Some offerings of [CIS 297](#) or [CIS 397](#) may also be designated as counting towards the Web and Mobile Technologies emphasis.

Notes: These requirements allow students significant flexibility in course selection. Majors should work closely with their advisor to select a path or emphasis 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.

All CIS majors have an internship-like experience in [CIS 400](#): Service Learning Project Management. In this class, students work with clients on real-world I.T. challenges. Consequently, the CIS department does not sponsor additional external internships for academic credit. We nevertheless do recommend that students pursue internships or other professional experiences in I.T. related fields during the summer months, or during JayTerm.

**MINOR REQUIREMENTS:** Six courses, including [CIS 100](#), two of [CIS 112](#), [220](#), [275](#), or [280](#), 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 advisers 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 Computer Science Principles test will receive CIS elective credit and may contact the department chair for consideration to instead receive credit for [CIS 220](#) upon successful completion of [CIS 320](#).

### 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 265](#), [CIS 275](#), [CIS 280](#), [CIS 320](#), [CIS 341](#), [CIS 361](#), [CIS 375](#)

#### 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, websites, mobile applications, or information systems that effectively meet the needs of those users.

Courses: [CIS 245](#), [CIS 265](#), [CIS 271](#), [CIS 275](#), [CIS 301](#), [CIS 361](#), [CIS 375](#)

#### 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 230](#), [CIS 241](#), [CIS 245](#), [CIS 310](#), [CIS 320](#), [CIS 335](#), [CIS 341](#)

### 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.

### Prerequisites

None

### CIS105 - Game Design and Development

An introduction to game design and development, this course takes a broad view of the problem of producing engaging, playable video games. Students will learn the principles behind good gameplay design and put those principles to practice by reviewing existing games and implementing new games in a gaming development system. Students will also apply lessons from studying usability, visual design, and the social context of games in their own games.

### Prerequisites

No senior CIS majors. Students may not take both CIS 105 and CIS 110.

### CIS110 - Interactive Fiction

Interactive fiction is a form of storytelling that doesn't present a single, linear narrative, but allows the reader to make decisions or otherwise interact with the world in the story. Popular forms include game books and tabletop and computer role-playing games. This course is an introduction to the creation and analysis of electronic interactive fiction. Students will learn to use a scripting language to write interactive fiction. In addition, students will read and discuss a variety of existing works.

### Prerequisites

No senior CIS majors. Students may not take both CIS 105 and CIS 110

### 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.

### Prerequisites

None

### CIS160 - Digital Photography

This course offers an introduction to the aesthetics of photography, digital photography technique, and computational post-processing. Students will learn how to effectively critique photographic content, how to manipulate that content electronically, and how to make effective use of photo editing software to build digital compositions.

### Prerequisites

None

### CIS220 - Object-Oriented Programming

This course is an introduction to object-oriented programming designed for students with prior coding experience. The course emphasizes program design, problem-solving, and introductory software engineering techniques. Students will master the

fundamental concepts and structures of object-oriented design and apply them to solve significant computational problems. Students not satisfying one of the listed prerequisites but with prior programming experience, such as in high school or through independent project work, are welcomed in the course and should contact the instructor to register.

### Prerequisites

CIS 105 or CIS 110 or CIS 112 or CIS 230 or CIS 241 or CIS 275 or CIS 280 or MTH 211 or PHY 250 or prior programming experience

### CIS230 - Artificial Intelligence

An introduction to artificial intelligence, this course examines the ways in which we can use computation to mimic, supplement, or supplant human intelligence. The course will cover classic topics in artificial intelligence such as knowledge representation, search, logical agents and planning as well as more recent developments in machine learning and deep learning. Particular attention will be given to ethical and social considerations in the adoption of Artificial Intelligence to solve real world problems and how design choices in the construction of an Artificial Intelligence system influence system behavior.

### Prerequisites

None

### 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.

### Prerequisites

None

### CIS245 - Information Visualization

An introduction to the analysis and visual presentation of complex information. Students will learn to creatively apply visualization tools, techniques, and concepts to explore large data sets, understand difficult problems, discover meaningful patterns and relationships, and explain complex data to a variety of audiences. The course begins with a brief history of information visualization techniques, covering basic statistics for data analysis and concepts of color theory and visual perception necessary for the production of effective graphic displays. Additional topics include strategies for effective information design; the evaluation of evidence used in tables, charts, and other forms of graphic illustration; and the effective presentation of quantitative information. Students will use industry-standard software to discover meaningful patterns in data and to present their findings effectively. Because information visualization is an interdisciplinary endeavor, examples, projects, and assignments in the course will be derived from a variety of subject areas

including medical and business analytics, graphic art, population studies, environmental studies, political campaigns, etc.

### Prerequisites

None

### CIS265 - Digital Video

An introduction to digital video production as well as film analysis and creation. Students will develop an understanding of digital video production for various contexts and will also develop expertise in non-linear video editing. Core topics include visual communication, digital storytelling, digital media production, and film analysis. This is a project-based course including the development of multiple digital video products.

### Prerequisites

None

### CIS271 - Digital and Social Media

An introduction to the production of digital media and the applications of social media for organizational communication. Students will learn to design and develop effective digital content for inclusion into media productions such as websites or social media apps. Core topics include the fundamental principles of design, as well as the technical development of digital images and video. Further, this class addresses the elements of social media planning, reporting, and analytics.

### Prerequisites

None

### 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.

### Prerequisites

None

### CIS280 - Scripting Languages

This course offers an introduction to coding in one or more scripting languages. Students will learn about scripting and its use in various modern contexts including best practices, using and creating libraries, problem-solving, and introducing popular applications and uses.

### Prerequisites

None

### 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.

### Prerequisites

None

### 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 112 or CIS 220 or CIS 275 or CIS 280 or 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.

### Prerequisites

CIS 112 or 220 or 275 or 280

### CIS320 - 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.

### Prerequisites

CIS 220 with a C or better

### 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.

### Prerequisites

CIS 112 or 220 or 275 or 280

### CIS341 - Numerical Computation

An introduction to using numerical computation techniques to solve problems that do not have exact solutions. Students will use existing packages and implement their own methods to solve problems in real-world contexts across a number of fields such as physics, economics, and epidemiology. Core topics include numerical differentiation and integration, solving differential equations, and optimization techniques. Special topics may include chaos, random number generation, and cellular automata. Significant focus will be placed on working collaboratively and giving presentations.

### Prerequisites

CIS 220 or CIS 241 or MTH 151 or PHY 102 or PHY 108

### 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.

### Prerequisites

CIS 271

### CIS375 - Advanced Web and Mobile Development

An advanced course regarding the concepts, techniques, and software products used in building dynamic software applications for the web and mobile devices. Core topics include methodologies for application design and development, as well as the evaluation, implementation, and configuration of open source software, scripting, and databases to create web applications. In addition, this course will encourage students to think critically about how the web and mobile technologies have changed through time, and where the future of such development is headed.

### Prerequisites

CIS 275 or 280 or permission of the instructor

### 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.

## Prerequisites

None

## 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, 112, 220, 271, and 301 or 310

## CONFLICT & RESOLUTION STUDIES

Classifications: Minor

**Steering Committee:** Elizabeth Bennett, Ph.D.; David Bunting; Melissa Cook, Ph.D.; Robert East Jr., Ph.D.; Richard Easton, M.A.; Buba Misawa, Ph.D.; Mary Ryan, Ph.D.

**Program Directors:** Richard Easton, M.A.

The Conflict and Resolution Studies Program offers a minor which provide interdisciplinary and international perspectives on the causes of conflict and the possibilities of resolution. Courses in the program offer theoretical insights into the causes of conflict—some positive and creative but far too many tragically destructive. The program courses embrace the study of interpersonal, intergroup, and societal conflicts in different cultures across the world. Exploration of resolution strategies, ethical and social justice issues, and leadership qualities are features of the program.

**MINOR REQUIREMENTS:** Six courses are required for the completion of the minor. They are [CRS 101: Introduction to Conflict and Resolution Studies](#), [CRS 247: Topics in Conflict and Resolution Studies](#), and four additional CRS or CRS affiliated courses. These four courses must represent at least two academic disciplines other than CRS, and at least one must be at the 300-level or above. Affiliated courses are approved by the CRS Steering Committee. With advance approval by the program director, a student may complete either an internship or independent study

as one of the electives.

## CRS101 - Introduction to Conflict and Resolution Studies

An interdisciplinary course open to all students but required for students completing the conflict and resolution studies minor. The course provides introduction to theory and history in the field. Students learn to analyze interpersonal, intergroup and societal conflicts from multiple perspectives and to comprehend the complex values, motives, reactions and circumstances involved in conflict from different cultures and various historical periods. While open to all students, preference is given to those who have declared the minor in Conflict and Resolution Studies.

## Prerequisites

None

## CRS247 - Topics in Conflict and Resolution Studies

This course is a study of a special topic in conflict and resolution studies. The topics will vary from offering to offering according to available faculty and student interest. Courses that fit this designation will have either a general focus in conflict and resolution studies that does not fit into a particular discipline, or will have an interdisciplinary focus that crosses disciplinary boundaries. Course can be retaken for credit when topics are different.

## Prerequisites

None

## CRS310 - Environmental Conflict Management

Environmental conflicts have emerged as key issues challenging local, regional, national and global security. Environmental crises and problems throughout the world are widespread and increasing rapidly. In relation to these concerns, this course explores dynamics of environmental conflicts attendant to social, economic and ecological dimensions of natural resource accessibility, biodiversity, pollution and climate change. Through the use of writing prompts, mock workshops, stakeholder roleplays, and case study analyses students will apply the latest techniques, tools, and approaches for managing environmental conflicts. This course is recommended for students who have taken CRS 100.

## Prerequisites

EVS 100 or permission of the instructor

## CONSERVATION BIOLOGY

Classifications: Major Emphasis

**Department Chair:** Thomas Contreras, Ph.D.

The Conservation Biology major emphasis would be appropriate for any Biology major with an interest in ecology who wants to

gain a greater understanding of biodiversity and its management. Students who complete the emphasis will gain a greater breadth of experience in course and fieldwork related to ecology and conservation and will be better prepared for moving on to graduate studies in those fields.

### CONSERVATION BIOLOGY MAJOR EMPHASIS

**REQUIREMENTS:** Students complete the requirements of the Biology major, with four of the courses chosen as follows:

- [BIO 288](#) (Conservation Biology)
- [BIO 245](#) (Applied Statistics for the Life Sciences)
- Two courses from the following: [BIO 201](#) (Genetics), [BIO 205](#) (Invertebrate Zoology), [BIO 209](#) (Vertebrate Anatomy), [BIO 219](#) (Field Biology), [BIO 247](#) (Special Topics in Biology, where the topic is relevant to conservation biology), [BIO 250](#) (Plant Diversity), [BIO 306](#) (Animal Behavior), [BIO 320](#) (Ecology), [BIO 347](#) (Special Topics in Biology, where the topic is relevant to conservation biology), [BIO 350](#) (Environmental Plant Physiology)

## CREATIVE WRITING

Classifications: Major Emphasis, Minor

**Department Chair:** Tara Fee, Ph.D.

The department of English offers a major emphasis and a minor in Creative Writing.

The major emphasis in Creative Writing is available to students majoring in English. This course of study develops students as writers of fiction, creative nonfiction, and poetry. By completing the major emphasis, students cultivate aesthetic judgment, facility as critics, and skills in the writing and editing of literary texts. Each student in this course of study produces a well-edited portfolio of work in at least two genres.

The minor in Creative Writing is available only to students not majoring in English. The minor develops students as readers and critics of literature and as writers of fiction, creative nonfiction, and poetry. By completing the minor, students cultivate skills in literary analysis, aesthetic judgment, criticism, and the writing and editing of literary texts. Each student in this course of study produces a well-edited portfolio of creative work.

### CREATIVE WRITING EMPHASIS REQUIREMENTS -

**ENGLISH MAJOR:** Students complete the requirements of the English major, including within their programs four courses in creative writing, two of which must be at the 300-level or above in different genres. Students may select from [ENG 125](#) (a two-credit course which may be repeated for full-course credit), [ENG 205](#), [ENG 207](#), [ENG 360](#), [ENG 361](#), and any other courses designated by the department.

**CREATIVE WRITING MINOR REQUIREMENTS:** Five courses, including three courses in creative writing, drawn from [ENG 125](#) (a two-credit course that may be repeated for full-course credit), [ENG 205](#), [ENG 207](#), [ENG 360](#), and [ENG 361](#), or other courses designated by the department; one course in literature, drawn from any English course that meets the Literary requirement; and one additional English course in either creative writing or

literature. At least one creative writing course must be at the 300-level or above.

## DATA SCIENCE

Classifications: Major Emphasis

**Department Chair:** Amanda Holland-Minkley, Ph.D.

The emphasis in Data Science is available to [Computing and Information Studies](#) majors. It focuses on the use of computer modeling, visualization, and analysis over large data sets to solve complex problem-solving tasks.

### MAJOR REQUIREMENTS WITH EMPHASIS IN DATA

**SCIENCE:** Students complete the requirements of the CIS major, with at least three of their five electives drawn from: [CIS 230](#), [CIS 241](#), [CIS 245](#), [CIS 320](#), or [CIS 341](#). Some offerings of [CIS 297](#) or [CIS 397](#) may also be designated as counting towards the Data Science emphasis.

Students with an interest in a particular subfield within computing are encouraged to consider an emphasis to the CIS major. Students may only declare a single emphasis to the CIS major. Majors should work closely with their adviser to select a path or emphasis through the curriculum that best fits their long-term career or graduate study goals.

## DIGITAL MEDIA

Classifications: Major Emphasis

**Department Chair:** Amanda Holland-Minkley, Ph.D.

The emphasis on Digital Media is available to [Computing and Information Studies](#) majors. It stresses visual literacy and creative problem solving and focuses on how people communicate meaning through innovative contexts capitalizing on various digital media.

### MAJOR REQUIREMENTS WITH EMPHASIS IN DIGITAL

**MEDIA:** Students complete the requirements of the CIS major, with at least three of their five electives drawn from [CIS 265](#), [CIS 275](#), [CIS 361](#), or [CIS 375](#). Some offerings of [CIS 297](#) or [CIS 397](#) may also be designated as counting towards the Digital Media emphasis.

Students with an interest in a particular subfield within computing are encouraged to consider an emphasis on the CIS major. Students may only declare a single emphasis to the CIS major. Majors should work closely with their advisor to select a path or emphasis through the curriculum that best fits their long-term career or graduate study goals.

## EARTH AND SPACE SCIENCE

Classifications: Other

**Steering Committee:** Michael McCracken, Ph.D.; William Sheers, Ph.D.; Mark Swift, Ph.D.

The Earth and Space Science Program offers elective courses related to the physics of the Earth and the universe.

## ESS103 - The Science of Scenery: Our Evolving Landscape

The shape of the landscape around us is the product of many different processes over eons of time. This earth science lab course deals mostly with the inorganic components of our planet, such as rock and flowing water, that help shape the landscape. It focuses on how the shape of the earth's surface changes, a process called geomorphology, including tectonics, volcanism, erosion, sedimentation, physical and chemical weathering, and the impact of humans. Laboratory assignments will be conducted in both field and classroom settings, with some computer- or map-based assignments included.

### Prerequisites

None

## 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*

### Prerequisites

None

## 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*

### Prerequisites

None

## ESS203 - Geoscience

This course combines the sciences of geography, geology, and geomorphology to explore physical components of our natural environment as they exist on the landscape and across time. It focuses on how the earth's surface changes, a process called geomorphology, including tectonics, volcanism, erosion, sedimentation, physical and chemical weathering, and the impact of humans. Students will learn to how to access and use powerful datasets and tools that will be invaluable for many types of research related to the environment. Laboratory assignments will be conducted in both field and classroom settings, with some computer- or map-based assignments included.

### Prerequisites

None

## 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.

### Prerequisites

None

## ECONOMIC DEVELOPMENT

Classifications: Major Emphasis

**Department Chair:** Tiffani Gottschall, Ph.D.

The Economic Development emphasis provides an opportunity for students completing an [Economics](#) major to develop additional depth in the area of economic development. Courses within the emphasis provide exposure to issues of economic development in both the developing world and in higher-income economies like the United States. In addition to the requirements of the economics major, the emphasis requires the following courses: [ECN 325](#) and [ECN 326](#), and one additional course from [ECN 309](#) and [ECN 421](#). These courses may be used to satisfy the economics (ECN) elective courses required by the major.

## ECONOMICS

Classifications: Major, Minor

**Faculty:** Robert Dunn, Ph.D.; Leslie Dunn, Ph.D.; Tiffani Gottschall, Ph.D.; Zachary Klingensmith, Ph.D.

**Department Chair:** Tiffani Gottschall, Ph.D.

Economics is the study of how society manages its scarce resources, with a focus on how people interact with each other and make decisions, and how forces and trends affect the economy as a whole. The Economics program provides students with the opportunity to develop a strong foundation in economic theory and the analytical tools that will allow them to think critically about complex economic and social issues on both a domestic and global scale. The program challenges students' intellectual curiosity by providing them with opportunities to learn and communicate complex economic ideas through critical thinking, speaking, writing, and independent research projects. Students are prepared to begin a variety of careers in the public or private sector, or begin graduate, law, or professional school.

**MAJOR REQUIREMENTS:** [ECN 101,102, 201, 202, 440, 498;](#) [MTH 125, 151;](#) and four ECN electives from the 300 and 400-level courses, at least one of which must be at the 400-level.

**CAPSTONE EXPERIENCE:** All students completing a major in Economics must take [ECN 498](#) (Senior Thesis) during their senior year. The primary goal of this capstone is to develop research skills using the concepts and tools of economic analysis to produce a creative and independent research project. The thesis requires students to review and synthesize related literature from economics journals and to gather and analyze data using

statistical and econometric techniques in support of a particular hypothesis chosen by the student. Thus, the senior thesis in economics differs from a typical term paper because it seeks to make a real contribution by generating new evidence and/or analysis on a particular economic topic.

**MINOR REQUIREMENTS:** [ECN 101](#) and [102](#) and three ECN electives at the 300 or 400-level. [ECN 201](#) or [ECN 202](#) can count as one of these electives.

**EMPHASIS IN ECONOMIC DEVELOPMENT:** The economic development emphasis provides an opportunity for students completing an economics major to develop additional depth in the area of economic development. Courses within the emphasis provide exposure to issues of economic development in both the developing world and in higher-income economies like the United States. In addition to the requirements of the economics major, the emphasis requires the following courses: [ECN 325](#) and [ECN 326](#), and one additional course from [ECN 309](#) and [ECN 421](#). These courses may be used to satisfy the economics (ECN) elective courses required by the major.

**NOTES:**

**AP Policy:** Students scoring a 4 or 5 on ECON- Microeconomics AP test will receive credit for ECN 101. Students scoring a 4 or 5 on ECON-Macroeconomics AP test will receive credit for ECN 102.

**Considerations for Graduate Work:** Students considering doing graduate work in economics are encouraged to pursue additional math courses, such as [MTH 152, 170](#) or [217, 208, 308, 415](#), and [ECN 401](#), while at Washington & Jefferson College. Students should consult with their advisors regarding mathematics preparation for graduate school.

## 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.

**Prerequisites**

None

## ECN102 - Principles of Macroeconomics

Primary concern is with the study of relationships between broad economic aggregates, the most important of which are 66 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.

**Prerequisites**

None

## ECN110 - Data Analysis with Spreadsheets

(1/2 course)

In this course, students will learn how to organize, summarize, graph, and analyze data using spreadsheet software. Topics will include types of variables, descriptive statistics, formatting and filtering data, and regression analysis. A fundamental focus will be developing the ability to organize and analyze a data set in an effort to uncover significant patterns and relationships. Interpretation of key results and consideration of their implications will deepen students' understanding of the role data analysis can play in the decision-making process.

**Prerequisites**

None

## ECN197 - Introductory Topics in Economics

Topics courses are occasionally offered to broaden or enhance the economics curriculum beyond the regular catalog offerings to include items of specialized interest or current or emerging events. By studying an economic topic at an introductory level, students taking this course will be exposed to the basic functioning of markets and learn about the economic rationale of decisions made by households, firms, and/or governments.

**Prerequisites**

None

## 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 with a grade of C or better and either MTH 131 or 151

## 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 with a grade of C or better and either MTH 131 or 151

## ECN297 - Topics in Economics

Topics courses are occasionally offered to broaden or enhance the economics curriculum beyond the regular catalog offerings to include items of specialized interest or current or emerging events. Students taking this course will examine market functions at the microeconomic and/or macroeconomic level, dependent on topic. They will consider the motivations and impacts of decisions made by economic agents and implement basic models of economic behavior.

### Prerequisites

ECN 101 and/or 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.

### Prerequisites

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

### ECN325 - Economic Development

This course is a study of the economic growth problems of the developing world. There are many factors that contribute to the underdevelopment experienced by these economies. Some of the factors explored include income inequality, HIV and other health factors, geography, colonial legacy, governance, resource endowments, industrialization, foreign aid and foreign direct investment.

### Prerequisites

ECN 102

### 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.

### Prerequisites

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.

### Prerequisites

ECN 101

### ECN343 - Money, Banking, and Financial Markets

This course is a study of financial markets and institutions, the role of the central bank in an economy, the international financial system, and monetary theory. Topics covered in this course include 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; monetary policy; and the international financial system.

### Prerequisites

ECN 102

### 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.

### Prerequisites

ECN 101

### ECN397 - Special Topics in Economics

Topics courses are occasionally offered to broaden or enhance the economics curriculum beyond the regular catalog offerings to include items of specialized interest or current or emerging

events. Students' transcripts will indicate the titles of specific course offerings.

### Prerequisites

Will vary according to topic

## 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

## 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 Economics

This course provides an in-depth analysis of the determinants of bilateral trade flows and the international financial system. Students will explore international trade theories that focus on various causes of trade flows and the impacts of tariffs and quotas under perfect and imperfect competition. Additional topics will include determinants of the exchange rate, foreign exchange derivatives, balance of payments accounts, the impact of macroeconomic policies in an open economy, and the key factors in exchange rate regime choice.

### Prerequisites

ECN 201 and 202

## ECN423 - Labor Economics

This course is a study of labor markets and the role they play in the determination of wages, employment and working conditions. The demand for labor by employers, leisure-labor decisions by households, investment in human capital, distribution of earnings among individuals and the effects of labor unions are discussed.

### Prerequisites

ECN 201

## 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 125 (with a grade of C- or better) or MTH 305

## ECN497 - Advanced Topics in Economics

Topics courses are occasionally offered to broaden or enhance the economics curriculum beyond the regular catalog offerings to include items of specialized interest or current or emerging events. Students' transcripts will indicate the titles of specific course offerings.

### Prerequisites

Will vary according to topic

## 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 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

None

# EDUCATION (TEACHER CERTIFICATION)

Classifications: Minor

**Faculty:** David Bunting; Kristin Nelson, Ph.D.

**Department Chair:** Kristin Nelson, Ph.D.

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, character, 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 Education Department at Washington & Jefferson College offers two accredited programs that successfully lead candidates toward the goal of graduation with a Bachelor of Arts degree in four years: one program leads to graduation with teacher certification and the other program leads to graduation without certification. Based on specific criteria and completion of requirements, candidates are tracked into the program for which they qualify by the end of their sophomore year.

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

- Early Childhood Certification in grades PreK-4.
- Grades 4-8 for Language Arts or Mathematics or Science or Social Studies.
- Secondary Education Certification in grades 7-12 for Biology, Chemistry, English, Mathematics, Physics, or Social Studies.
- Specialty Area Certification in grades PreK-12 for Art Education, French, German, or Spanish.

**SPECIAL EDUCATION:** Students can add Special Education PreK-12 as a dual certification matched to their primary certification area.

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.

*Students who do not qualify for PA certification or who choose to graduate without PA certification can graduate successfully with a Bachelor of Arts Degree (BA) from Washington & Jefferson College with a major in Child Development and Education or a major in their field of interest.*

## CERTIFICATION REQUIREMENTS

The Committee on the Teaching Profession (COTP) oversees the College's Teacher Certification Program. All students interested in being admitted to this program must apply to the COTP and be accepted. Students apply for admission in the Spring semester of their sophomore year after having completed the equivalent of 48 regular semester credits of coursework. In order to be eligible for admission, students must meet the following general requirements.

## ADMISSION REQUIREMENTS

- A minimum cumulative GPA of 3.00 is required of all students seeking certification.
- Students seeking certification must take two terms of college level math and two terms of college level English (one composition and one literature).
- Students must maintain yearly "no record status" clearances: Act 24- Arrest and Conviction Clearance
- Act 34-Pennsylvania Criminal Record
- Act 114-FBI Federal Criminal History via fingerprint
- Act 126-Child Abuse Recognition and Reporting Training
- Act 151-Child Abuse Clearance
- Student must maintain negative TB test results
- Students must maintain membership in the Student Pennsylvania State Education Association or S-PSEA.
- Students must pass all qualifying exams (PRAXIS or PAPA) prior to admission to the program. Contact the Education Department for details.
- Admitted students must apply to the committee again for permission to student teach, typically in the Spring semester of their junior year. In order to be eligible for student teaching, students must meet the following general requirements.

## STUDENT TEACHING REQUIREMENTS

- Certification program admission
- Continue to maintain a minimum cumulative G.P.A. of 3.0 and current clearances (see above) and S-PSEA membership.
- Must complete an application and provide three letters of recommendation.
- Must pass qualifying exams (PRAXIS or PECT) in the content area of certification. Contact the Education Department for details.
- Support of the academic department and approval from

the COTP.

Once students seeking certification complete [EDU 406](#) and [407](#), they are reviewed by the COTP. The COTP 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 COTP. A student's maturity, professional conduct, and commitment to teaching is also evaluated during this review. The state mandates that "the certifying institution ...affirm[s] the candidate is known and regarded by the preparing institution as a person of Good Moral Character that possesses the personal qualities that 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.

### **COTP RECOMMENDATION FOR CERTIFICATION REQUIREMENTS**

- Students may be required to submit and present a professional portfolio graded as satisfactory or above.
- Successfully complete all of the program requirements for their certification area.
- Complete all of the requirements for a bachelor's degree with a minimum cumulative GPA of 3.00.
- Earn a satisfactory or above rating on the Pennsylvania Statewide Evaluation for Student Professional Knowledge and Practice.
- Pass qualifying exams for certification (PRAXIS or PECT). Contact the Education Department for details.

### **Early Childhood Certification in grades PreK-4**

Students seeking certification to teach at the early childhood level in grades PreK-4 must major in Child Development and Education and complete appropriate Elementary Education Content courses. See the [Child Development and Education](#) section of the catalog for details about this major.

### **Grades 4-8**

Students can be certified in Grades 4-8 in one of 4 specific specialized content areas:

- Language Arts
- Mathematics
- Science
- Social Studies

Students seeking certification to teach **Grades 4-8** may achieve certification in one of two ways:

- *Students can major in Child Development and Education and complete a minor and/or selected courses in one of the five academic content areas (English, Mathematics, History and Biology or Environmental Studies for Science. 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-must be taken at W&J, PSY 102, PSY 265, PSY 275, EDU 201, EDU 207, EDU 301, EDU 302 (all areas except language arts) or 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, & the Capstone Project: EDU 408 and EDU 409. Note: Psychology 101 is a prerequisite for all education and psychology courses and must be taken at W&J.*

Students who would like to add Special Education PreK-12 to their Grades 4-8 need to complete additional designated coursework in Special Education to qualify for dual certification in Special Education PreK-12.

### **Secondary Education Certification in grades 7-12**

Students seeking certification in Secondary Education in grades 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, History (Social Studies), 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 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, & the Capstone Project: EDU 408 and EDU 409. Note: Psychology 101 is a prerequisite for all education courses and must be taken at W&J.*

**SPECIAL EDUCATION:** Students who would like to add Special Education PreK-12 to their Secondary Education Certification grades 7-12 need to complete additional designated coursework in Special Education to qualify for dual certification in Special Education PreK-12.

### **PreK-12 Certification in Art or Modern Language (Specialty Education Certification)**

Students seeking certification in Specialty Education Certification PreK-12 for art 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 specialty area certification in grades PreK-12 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](#), & the Capstone Project: [EDU 408](#) and [EDU 409](#).*

**SPECIAL EDUCATION:** Students who would like to add dual certification in Special Education to their Specialty Education certification in grades PreK-12 need to complete additional designated coursework in Special Education to qualify for dual certification in Special Education PreK-12.

#### Dual Certification: Special Education

Dual certification in Special Education is available for PreK-12. **This is not a stand-alone certification and in some cases may take more than four years to complete.** It must be paired with an appropriate area of certification. Students interested in adding dual certification to their main certification area should consult the education department. Courses required for dual certification are [EDU 221](#), [301](#), [303](#), [309](#), [321](#), [350](#), [403](#), [250](#), and [PHA/PHW 200](#).

**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.

#### INTERNSHIPS

The courses in education with an internship component for students seeking certification are designed to connect and synthesize theory and practice. *School internships are a privilege provided by the department and the host school and may be terminated.* Any problem, potential problem or embarrassing situation at the internship or outside of the internship can lead to its termination.

Education courses with internships require a "no record status" on clearances for

- Act 24- Arrest and Conviction Clearance
- Act 34-Pennsylvania Criminal Record
- Act 114-FBI Federal Criminal History via fingerprint
- Act 126-Child Abuse Recognition and Reporting Training
- Act 151-Child Abuse Clearance

Students participating in an internship also must have a

- Negative TB result
- Membership to the Student Pennsylvania State Education Association or S-PSEA.

## EDU205 - The Role of Geography in Conflict and Resolution

This course is designed for future teachers and others interested in learning about the role of geography in conflict and resolution. Students will research, study, and teach about the cultural, environmental, ecological, physical, and political impact of geography, especially as it pertains to colonization and slavery in Africa, Europe, and North and South America. Students will study how to research, discuss, present, and teach about controversial and politically sensitive subjects. A weekly internship at a local school may be required for students seeking teacher certification. Students taking this course who are not seeking certification are not required to do an internship.

#### Prerequisites

None

## 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 for students with all clearances seeking certification. Students not interested in certification please see course instructor.*

#### Prerequisites

PSY 101 taken at W&J, EDU 201, or permission of the education department chair

## EDU208 - Topics in Education

This course is designed to allow students to stay current in the ever-changing world of education with topics chosen for their timeliness and relevance (e.g. Title IX, teaching sexuality, race and immigration). Open to all students, the course is especially relevant for students interested in education, counseling, human resources, and the law as career options. Students may enroll in EDU 208 more than once, provided the topic of the course differs.

#### Prerequisites

None

## 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. This course is specifically designed for the special education dual certification program.

#### Prerequisites

None

## **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. 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.

### **Prerequisites**

EDU 201, 207; 301, 350, 403, internship clearances and/or permission of the 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 nontraditional learners and students with special needs in inclusive classrooms will be examined.

*A weekly internship at a local school is required for students with all clearances seeking certification.*

### **Prerequisites**

EDU 201, 207, or 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 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 internship at a local school is required for students with clearances seeking certification.*

### **Prerequisites**

EDU 201, 207, 301, or 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 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 internship at a local school is required for students with all clearances seeking certification.*

### **Prerequisites**

EDU 201, 207, 301, or 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 internship at a local school is required for students with all clearances seeking certification.*

### **Prerequisites**

EDU 201, 207, 301, or 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 issues 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.

*A weekly internship at a local school working with students who may be severely and profoundly handicapped and/ or have low incidence disabilities is required for students with all clearances seeking certification.*

### **Prerequisites**

Clearances for internships, EDU 201, 207, 301, or 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 students' strengths and weaknesses through the use of research and educational technology.

*A weekly internship at a local school working with students who may be mildly or moderately handicapped and/ or have moderate or high incidence disabilities is required for students with all clearances seeking certification.*

### Prerequisites

Clearances for internships, EDU 201, 207, 301, or 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 early childhood, elementary, secondary ESL (English as a Second Language / ELL English Language Learner), and/or special education classroom setting. A seminar/ research component focuses on successfully understanding, analyzing, evaluating, and teaching the ESL / ELL learner.

*A full-time internship at a school is required.*

### Prerequisites

Clearances for internships, EDU 201, 207, 301, or permission of the education department chair

### 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 for students with all clearances seeking certification.*

### Prerequisites

EDU 201, 207, 301, or permission of the education department chair

### EDU406 - Principles of Curriculum Design

This four-credit course allows students to analyze, synthesize, and evaluate information learned during their certification program coursework, 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 The Professional Knowledge and Practice Standards.

### Prerequisites

EDU 201, 207, 301, 350, 403; qualifying exams and "no record status" clearances (FBI, Criminal Record, Child Abuse); negative TB test result; S-PSEA membership; approval of the COTP, or 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, 350, 403; qualifying exams and "no record status" clearances (FBI, Criminal Record, Child Abuse); negative TB test result; S-PSEA membership; approval of the COTP, or permission of the education department chair

### 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.

### Prerequisites

None

### 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.

### Prerequisites

None

### 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 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

None

# ENGINEERING AND APPLIED SCIENCE DUAL-DEGREE PROGRAMS

Classifications: Pre-Professional

**Program Directors:** Michael McCracken, Ph.D.

W&J's engineering and applied science dual-degree programs combine the strengths of a liberal arts education with professional preparation in a technical field. Students complete a broad curriculum that includes foundational training in basic science and communication skills at W&J and specialized training in a particular field of engineering or applied science at one of our world-class partner institutions. Many courses of study are available, including (but not limited to) mechanical, chemical, biomedical, or electrical engineering; applied mathematics; and computer science.

Dual-degree students typically spend three years at W&J and two years at one of W&J's partner institutions: Washington University in St. Louis, Case Western Reserve University in Cleveland, or Columbia University in New York City. Upon successful completion of the program, the student receives a bachelor of arts degree from W&J and a bachelor of science degree in the chosen engineering/applied science field from the partner school. To be eligible, students must meet minimum GPA, pre-engineering course completion, and residency requirements during their time at W&J (see below).

Students must complete W&J's degree requirements. For most students, the W&J major is completed by transferring courses back from the partner school. However, consistent with W&J's degree requirements, no more than three courses counting toward the W&J major may be earned at another institution.

To be eligible for transfer to our partner schools, students must:

- Have a cumulative grade point average of 3.00 or better for Case Western, 3.25 for Washington University in St. Louis, and 3.30 for Columbia University;
- Have a grade point average in approved courses

in chemistry, mathematics, physics, and computer programming of 3.00 or better for Case Western, 3.25 for Washington University in St. Louis, and 3.30 for Columbia University;

- Achieve a grade of B or higher (first attempt) in each math or science course taken at W&J;
- Complete any pre-requisite courses required by the individual schools;
- Meet several additional grade and residency requirements specific to each school.

Each partner school and each field of engineering or applied science carries a slightly different set of pre-requisite courses. Pre-requisite courses that are required for all engineering fields include [CHM 160](#); [CIS 220](#); [MTH 151](#), [152](#), [208](#), [308](#); and [PHY 107](#) and [108](#). In some cases (depending upon partner school and specialization), [PHY 250](#) may be substituted for [MTH 308](#) and/or [CIS 220](#). Some engineering fields require additional pre-requisite courses. Students should take PHY 107, PHY 108, MTH 151, and MTH 152 **as early as possible** at W&J, ideally beginning with MTH 151 and PHY 107 in the Fall semester of their first year.

Students interested in the dual-degree program should contact their academic advisor and the program coordinator as soon as possible. Each semester's registration should be approved by both the academic advisor and the program coordinator in order to ensure a smooth transition to the partner school and timely completion of W&J graduation requirements. The program coordinator holds an information session for all interested students in each Fall semester.

Students may also choose to complete their engineering studies at non-partner schools with engineering programs, though transfer and completion schedule may not be guaranteed.

Students may satisfy the two course-of-study graduation requirement through the academic major completed at W&J and additional coursework at the second institution of study. Students must complete at least one academic major at W&J.

## ENGLISH

Classifications: Major, Minor

**Faculty:** George Clark, Ph.D.; Annette Drew-Bear, Ph.D.; Tara Fee, Ph.D.; Jennifer Harding, Ph.D.; Carolyn Kyler, Ph.D.; Michael Lewis, Ph.D.; Lauryn Mayer, Ph.D.; Kathleen McEvoy, Ph.D.; Dana Shiller, Ph.D.; Linda Troost, Ph.D.; Todd D. Verdun, Ph.D.

**Department Chair:** Tara Fee, Ph.D.

The English program aims to inspire students in the pursuit of their intellectual and professional passions through the teaching of literature, literary history, and creative and professional writing. Through encounters with diverse literatures and literary traditions, and through practice in deep reading, critical

interpretation, and rigorous research, students learn to contribute meaningfully to a complex and changing world.

At W&J, our students engage personally with distinguished scholars, journalists, fiction writers, and poets through visits sponsored by the Maxwell Lecture Series, the Branton Lecture Series, the Visiting Writers Series, and the Enid Parker Keen Poetry Fund. Upon graduation, our students have achieved success in education, law, public service, journalism, marketing, social media strategy, technology, medicine, entertainment, healthcare, and management.

**ENGLISH MAJOR REQUIREMENTS:** Ten courses, including [ENG 290](#) and [400](#); two survey courses chosen from [ENG 224](#), [260](#), [263](#), [264](#), [265](#), [266](#), [270](#), and [275](#); four English courses at the 300-level; and two additional English courses, at least one at the 200-level or above. One of the ten courses must focus primarily on literature before 1850: [ENG 215](#), [263](#), [264](#), [265](#), [305](#), [310](#), [315](#), [320](#), [325](#), or another course designated by the department. The intensive freshman writing courses (currently [ENG 111](#), [ENG 112](#)) required of all students do not count toward the major.

**ENGLISH MINOR REQUIREMENTS:** Five courses, including a survey course chosen from [ENG 224](#), [260](#), [263](#), [264](#), [265](#), [266](#), [270](#), and [275](#); one other English course at the 200-level; one English course at the 300-level; and two additional English courses, at least one of which must be at the 200-level or above. Professional writing courses ([ENG 200](#), [201](#), [202](#), [203](#), and [301](#)) and the intensive freshman writing courses ([ENG 111](#), [ENG 112](#)) do not count toward the English minor.

**ENGLISH MAJOR WITH CREATIVE WRITING EMPHASIS:** The major emphasis in Creative Writing is available to students majoring in English. This course of study develops students as writers of fiction, creative nonfiction, and poetry. By completing the major emphasis, students cultivate aesthetic judgment, facility as critics, and skills in the writing and editing of literary texts. Each student in this course of study produces a well-edited portfolio of work in at least two genres.

**REQUIREMENTS:** Students complete the requirements of the English major, including within their programs four courses in creative writing, two of which must be at the 300-level or above in different genres. Students may select from [ENG 125](#) (a two-credit course which may be repeated for full-course credit), [ENG 205](#), [ENG 207](#), [ENG 360](#), [ENG 361](#), and any courses designated by the department.

**CREATIVE WRITING MINOR:** The minor in Creative Writing is available only to students not majoring in English. The minor develops students as readers and critics of literature and as writers of fiction, creative nonfiction, and poetry. By completing the minor, students cultivate skills in literary analysis, aesthetic judgment, criticism, and the writing and editing of literary texts. Each student in this course of study produces a well-edited portfolio of creative work.

**REQUIREMENTS:** Five courses, including three courses in creative writing, drawn from [ENG 125](#) (a two-credit course that may be repeated for full-course credit), [ENG 205](#), [ENG 207](#), [ENG 360](#), and [ENG 361](#), and any courses designated by the department;

one course in literature, drawn from any English course that meets the Literary requirement; and one additional English course in either creative writing or literature. At least one creative writing course must be at the 300-level or above.

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 LITER 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 102](#), and [COM 221](#)), and the Education minor consisting of those courses required for Secondary Education (grades 7-12) Certification.

Students may seek Grades 4-8 Certification 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 102](#), and [COM 221](#)), and the Education minor consisting of those courses required for 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 acknowledgment 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 count toward the English major or minor.

### Prerequisites

None

### 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 acknowledgment 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.

### Prerequisites

None

### ENG155 - Literary Pathways

This course introduces students to literary inquiry through the study of literary texts that explore a shared theme. Using various texts, the course develops a sense of exploration and insight when students appreciate the creative representation of a theme in literature. Themes in different semesters might include Strangers and Journeys, The Gothic, Literature into Film, Literature of the Medical World, or others. This course may not be repeated.

*Open to freshman and sophomores only*

### Prerequisites

None

### 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*

### Prerequisites

None

### ENG200 - Advanced Writing and Research Skills

A course developing writing skills beyond those covered in first-year composition. Students explore, research and analyze significant contemporary topics, gaining skills in idea generation, research, persuasion, and revision. 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. This course counts toward the Professional Writing

minor and the English major. It does not count toward the English minor or the Creative Writing minor.

### Prerequisites

ENG 111 or 112, or exemption from the first-year composition requirement

### 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 minor. It counts toward the English major, but does not count toward the English minor or the Creative Writing minor.

### Prerequisites

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 course counts toward the Professional Writing minor and the English major. It does not count toward the English minor or the Creative Writing minor.

### Prerequisites

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 course counts toward the Professional Writing minor and the English major. It does not count toward the English minor or the Creative Writing minor.

### Prerequisites

ENG 111 or 112

### ENG205 - Creative Writing

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.

### Prerequisites

None

## ENG207 - Writing Creative Non-Fiction

An introduction to the genre of creative nonfiction from a practitioner's perspective, emphasizing the craft and theory that undergird successful memoirs, lyric and braided essays, travel and other topical writing, and personal essays. Class time will be divided between critical examinations of established writers and workshops for student drafts.

### Prerequisites

ENG 111 or ENG 112

## 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. Students will learn how Shakespeare uses embedded stage directions, audience addresses, and rhetorical figures to create his characters' unique voices. Through modern parallel and performance work, students create their own interpretations of scenes making them relevant to them and reinventing Shakespeare for the current age. In addition, it teaches the art of close reading and analytical writing.

### Prerequisites

None

## ENG222 - 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.

### Prerequisites

None

## 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.

### Prerequisites

None

## ENG226 - Faith in Poetry

A study of representative poetry of several faith traditions, such as the Jewish, Christian, and Islamic faiths. Students explore the poetry of sacred texts and more recent verse of personal spiritual struggle with attention to the way poetry expresses yet also examines the nature of belief. The course includes a discussion of various doctrinal and historical conflicts and the ways that poetry, as well as the shared artistic principles among writers in these

distinct traditions, can offer a means of interfaith understanding. In addition, it teaches the art of close reading and analytical writing.

### Prerequisites

None

## ENG228 - Literature and the Mind

As readers, we are often invited to "experience" the thoughts, motives, and emotions of speakers and characters in different types of literary texts. But how do printed words on a page come to represent the subjective experience of the mind and consciousness itself? This course examines how the mind has been represented in literature - representation that has been achieved with various narrative techniques and literary devices. To develop students' understanding of the study of the mind, the course includes some basic background material drawn from psychology and philosophy. The majority of the course focuses on reading literary texts that have been chosen specifically for their exploration of the mind and consciousness.

### Prerequisites

None

## ENG250 - Introduction to Genres

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

### Prerequisites

None

## 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. Topics in different semesters might include Asian American Literature, Irish Literature, Speculative Fiction, or Justice and Revenge.

### Prerequisites

None

## 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.

### Prerequisites

None

## 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.

### Prerequisites

None

## 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.

### Prerequisites

None

## 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.

### Prerequisites

None

## 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.

### Prerequisites

None

## 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.

### Prerequisites

None

## 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.

### Prerequisites

None

## ENG275 - Asian American Literature

A study of literature written by Americans of Asian descent. This literature offers a record of immigration through the West Coast's Angel Island, "bachelor villages" and labor on the transcontinental railroads, internment and war heroism during World War II, and constructions of academic, professional, and personal dreams informed by gendered representations of the "oriental." It also registers the experiences of young people reinventing family stories, forging new identities, and contributing to the descriptions of what it means to be American that are differentiated along the lines of immigration status, race, class, gender, and sexuality. This course explores novels, memoir, short stories, and poetry, as well as historical documents and selections from radio plays, drama, musical theater, documentary, and narrative film.

### Prerequisites

None

## 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.

*Not open to freshmen or seniors.*

### Prerequisites

One 200-level fall- or spring- term literature course (two strongly recommended)

## ENG301 - Writing for Online Platforms

Professional writing for online platforms. In addition to analyzing published examples, students create blogs, social media posts, infographics, newsletters, and other digital writing. The course also examines legal, ethical, and copyright issues for writers; advanced strategies for online searching; the development of a persona and cultivation of an audience; best practices for creating accessible and attractive work; and tools for writing, editing, and collaborating. This is a required course for the Professional Writing minor. It counts toward the English major, but does not count toward the English minor or the Creative Writing minor.

### Prerequisites

Two 200-level literature courses or one of the following: ENG 200, 201, 202, 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 in alternate years*

### Prerequisites

ENG 263

### **ENG305 - 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 - 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 - 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 - The Long Eighteenth Century**

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 - 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 - 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 - 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 - British Literature since 1900**

Authors and texts from Yeats to the present day 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 - American Literature since 1900**

Literature of the twentieth and twenty-first centuries 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, the Black Arts Movement, and Toni Morrison. 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 Poetry Writing

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.

### Prerequisites

ENG 205

### ENG361 - Advanced Fiction Writing

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.

### Prerequisites

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 revises a substantial, sophisticated essay and gives a public presentation based on it. This course is required for English majors. By permission only.

### Prerequisites

One 300-level literature course (two strongly recommended)

### ENG401 - Topics in Advanced Professional Writing

This course will introduce students to advanced concepts in professional writing, such as Proposal Writing, Writing for Nonprofits, Collaboration and Project Management, Layout and Design, Ethics and Professionalism, and Social Media Writing.

### Prerequisites

Permission of the Coordinator of Professional Writing and the Director of the Graduate Program in Professional Writing.

### ENG500, 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 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

None

## ENTREPRENEURSHIP

Classifications: Major Emphasis, Minor

**Program Directors:** Max Miller, J.D., M.B.A.

**Department Chair:** Lori Galley, Ph.D.

The Entrepreneurship program of the Department of Business offers courses of study aimed at developing the perspectives, skills, insights, and experiences that will enable students to recognize and develop entrepreneurial opportunities in a variety of fields based on their education in the liberal arts.

**BUSINESS MAJOR REQUIREMENTS WITH EMPHASIS IN ENTREPRENEURSHIP:** [ECN 101](#) and [102](#); [MTH 125](#); [ACC 211](#) and [212](#); [FIN 341](#); [BUS 201, 301, 307, 406](#), one from [BUS 315, 319, 326, 350](#), or [361](#); and [ENT 301, 302](#), and [397](#).

**MINOR REQUIREMENTS:** [ACC 211, 212](#); [BUS 201, 307](#); [ENT 301](#), and [302](#).

### NOTES:

**Transfer Credit:** In satisfying the requirements of the minor, the program requires that the following courses be completed at Washington & Jefferson College: [ACC 211](#) and [212](#); [BUS 201](#); [ENT 301, 302](#). Students may petition the program director to waive this requirement in special circumstances.

**Restrictions on Combinations of Courses of Study:** Since students majoring in business may complete an optional emphasis in entrepreneurship, they may not complete a minor in entrepreneurship.

## ENT301 - New Venture Finance and Law

This course addresses finance and law as applied to new entrepreneurial ventures. The primary focus of the course is on financing new firms where access to traditional sources of business funding such as bank loans or traditional stock issues are impossible and funding must therefore often be arranged in the context of equity stakes. Forms of business organizations such as corporations and limited liability companies, contractual arrangements such as licenses and franchises, and other legal considerations are also discussed.

### Prerequisites

ACC 211 and BUS 201

## ENT302 - New Venture Business Plan Development

Development of a viable and convincing business plan is often critical to the early ability of new ventures to attract resources and organize for success. This course will focus on the development of business plans in new organizations and focus on providing students with the skills to develop and evaluate such plans.

### Prerequisites

ACC 212 and BUS 201

## ENT397 - Special Topics in Entrepreneurship

Special topics courses are occasionally offered to broaden or enhance the entrepreneurship curriculum beyond the regular catalog offerings to include items of specialized interest or current or emerging events. Students' transcripts will indicate the titles of specific course offerings.

### Prerequisites

BUS 201 and others varying by topic

## ENVIRONMENTAL SCIENCE

Classifications: Major

**Steering Committee:** Jennifer Bayline, Ph.D.; Thomas Contreras, Ph.D.; Robert East Jr., Ph.D.; Jason Kilgore, Ph.D.; James March, Ph.D.; Lauryn Mayer, Ph.D.; Stuart Miller, Ph.D.; Mary Ryan, Ph.D.; Dana Shiller, Ph.D.; Mark Swift, Ph.D.

**Program Directors:** Robert East Jr., Ph.D.

The Environmental Studies Program's mission is to graduate men and women who are environmentally literate, socially responsible, 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 scientific, technological, and critical thinking skills. Internships provide opportunities for students to work in para-professional positions. Guided research in the senior capstone experience prepares students for graduate school or professional employment. The program provides the opportunity to complete a major in Environmental Science or a major or minor in Environmental Studies.

Environmental Science (ENVS) and Environmental Studies (EVST) are distinct, but related programs. Both programs start with an introductory course in environmental studies and end with a course in research methods and a professional capstone. Both are interdisciplinary programs that focus on building knowledge and skills in the Natural/Physical Sciences, Social Sciences, Humanities, and Arts. However, while these content areas exist in both majors, the ENVS major prescribes significantly more natural science, physical science, and computational science content than does the EVST major. For more information on opportunities in [Environmental Studies](#), please see the affiliated page in this catalog.

**ENVIRONMENTAL SCIENCE MAJOR REQUIREMENTS:** A total of 14-14.5 courses, including at least 9.5 core courses that must be successfully completed: [EVS 100](#) *Topics in Environmental Studies* or [EVS 101](#) *Introduction to Environmental Studies*; [BIO 111, BIO 121](#), and [BIO 131](#) *Foundations in Biology*; [CHM 160](#) *Organic Chemistry: Structure and Fundamentals* and [CHM 260](#) *Introduction to Inorganic Chemistry*; [MTH 151](#) *Calculus I* and [BIO/MTH](#)

[245 Applied Statistics for the Life Sciences](#); [BIO 219 Field Biology](#); and [EVS 400 Research Methods in Environmental Studies](#).

In addition, students must successfully complete 4.5-5 elective courses as follows:

- One course from Environmental Economics, Policy, and Ethics: [ECN 391](#), [EVS 201](#), [EVS 315](#), [PHL 231](#), [PPL 313](#), or [PPL 319](#)
- One course from Computing Science: [CIS 112](#), [CIS 220](#), [CIS 241](#), [CIS 245](#), or [CIS 271](#)
- One course from Natural History & Taxonomy: [BIO 205](#), [BIO 209](#), or [BIO 250](#)
- One course from Ecological Synthesis: [BIO 288](#), [BIO 306](#), [BIO 320](#), [BIO 350](#), [EVS 330](#), or [EVS 350](#)
- One elective: [BIO 201](#), [BIO 215](#), [CHM 270](#), [CHM 385](#), [EVS 300](#), [PHY 101](#), [PHY 107](#), approved 500/501 Independent Study, or any course listed above

Majors must also complete the Capstone Experience. The Capstone Experience facilitates the integration of theoretical knowledge with practical experience gained from class projects, independent research, and/or internships. All seniors must successfully complete [EVS 400](#) then one of the following three options: an approved 400-level-or-above research course in an EVS-affiliated department/program; EVS 500/501 Independent Study; or a ≥ 160-hour internship with a proposal approved by the Director of Environmental Studies. All students are required to present outcomes to the College community or at an appropriate conference via a poster or oral presentation.

## ENVIRONMENTAL STUDIES

Classifications: Major, Minor

**Steering Committee:** Jennifer Bayline, Ph.D.; Thomas Contreras, Ph.D.; Robert East Jr., Ph.D.; Jason Kilgore, Ph.D.; James March, Ph.D.; Lauryn Mayer, Ph.D.; Stuart Miller, Ph.D.; Mary Ryan, Ph.D.; Dana Shiller, Ph.D.; Mark Swift, Ph.D.

**Program Directors:** Robert East Jr., Ph.D.

The Environmental Studies Program's mission is to graduate men and women who are environmentally literate, socially responsible, 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 scientific, technological, and critical thinking skills. Internships provide opportunities for students to work in para-professional positions. Guided research in the senior capstone experience prepares students for graduate school or professional employment. The program provides the opportunity to complete a major in Environmental Science or a major or minor in Environmental Studies.

Environmental Science (ENVS) and Environmental Studies (EVST) are distinct, but related programs. Both programs start with an introductory course in environmental studies and end with a course in research methods and a professional capstone. Both are interdisciplinary programs that focus on building knowledge and skills in the Natural/Physical Sciences, Social Sciences, Humanities, and Arts. However, while these content areas exist in both majors, the ENVS major prescribes significantly more natural science, physical science, and computational science content than does the EVST major. For more information on opportunities in [Environmental Science](#), please see the affiliated page in this catalog.

**ENVIRONMENTAL STUDIES MAJOR REQUIREMENTS:** A total of 10.5 courses, including the following 4.5 core courses that must be successfully completed: [EVS 100 Topics in Environmental Studies](#) or [EVS 101 Introduction to Environmental Studies](#); [EVS 201 Global Environmental Issues](#); one of [PHL 231 Environmental Ethics](#), [PPL 313 Environmental Policy](#), or [EVS 315 International Environmental Policy](#); [BIO 288 Conservation Biology](#) or [BIO 320 Ecology](#); [EVS 400 Research Methods in Environmental Studies](#).

In addition, students must successfully complete six elective courses as follows:

- One course from the Natural Sciences: [EVS 150](#), [EVS 330](#), [EVS 350](#), [BIO 111](#), [BIO 205](#), [BIO 219](#), [BIO/MTH 245](#), [BIO 250](#), [BIO 288](#), [BIO 320](#), [CHM 101](#), or [CHM 347](#) (*Topics in Environmental Chemistry*)
- One course from the Social Sciences: [EVS 120](#), [EVS 260](#), [EVS 300](#), [EVS 315](#), [SOC 247](#) (*Urban Planning*), [SOC 262](#), [SOC 347](#), [SOC 361](#), [SOC 375](#), [PPL 313](#), [PPL 317](#), [PPL 319](#) or [ECN 391](#).
- Four additional elective courses selected from the lists of electives above, or from the following courses: [CRS 310](#), [ENG 222](#) (*Topics in Literature and the Environment*), [PHL 231](#), [MTH 125](#), or [MUS 245](#).

Majors must also complete the Capstone Experience. The Capstone Experience facilitates the integration of theoretical knowledge with practical experience gained from class projects, independent research, and/or internships. All seniors must successfully complete [EVS 400](#) then one of the following three options: an approved 400-level-or-above research course in an EVS-affiliated department/program; EVS 500/501 Independent Study; or a ≥ 160-hour internship with a proposal approved by the Director of Environmental Studies. All students are required to present outcomes to the College community or at an appropriate conference via a poster or oral presentation.

**ENVIRONMENTAL STUDIES 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 Global Environmental Issues](#), 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 250](#), [BIO/MTH 245](#), [BIO 288](#), [BIO 320](#), or [CHM 101](#).

- One course from the Social Sciences: [EVS 260](#), [EVS 300](#), [EVS 315](#), [SOC 247](#) (*Urban Planning*), [SOC 262](#), [SOC 347](#), [SOC 361](#), [PPL 313](#), [PPL 317](#), [PPL 319](#) or [ECN 391](#).
- One additional elective course selected from the following courses: [ENG 222](#) (*Topics in Literature and the Environment*), [PHL 231](#), [MTH 125](#), or [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 EVS 100.

**TEACHER 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](#) and [201](#); one of [ENG 222](#), [MUS 245](#), or [PHL 231](#); one of [EVS 260](#), [315](#); [SOC 262](#), [361](#); [PPL 313](#), [317](#), [319](#); or [ECN 391](#); one of [EVS 150](#), [350](#), [BIO 245](#), [250](#), [288](#), [320](#), 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: one of [EVS 150](#), [330](#), [350](#); [BIO 245](#), [250](#), [288](#); or [CHM 101](#); one of [EVS 260](#), [315](#); [PPL 313](#), [317](#), [319](#); [SOC 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 historical and contemporary topics in environmental studies. Each semester a different topic, or set of topics, will be examined through texts spanning the natural sciences, social sciences, and humanities. Topics include global warming, forests, water, food production systems, the oceans, renewable energy, sustainability, human population, globalization, and biodiversity.

### Prerequisites

None

## 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.

### Prerequisites

None

## EVS120 - Sustainability

What does it really mean to be “sustainable”? Is this simply a feel-good term, or does it have measurable substance? Can economies grow while concurrently supporting a good quality of life for all? What can nature teach us about sustainable living? Through selected readings, discussions, debates, films, and speakers, the concept of sustainability will be explored as both a goal and a process. Potentials and constraints for achieving sustainability from ecological, political, economic, social, and ethical perspectives will be critically examined. Methodologies for qualitatively and quantitatively measuring sustainability will be introduced, practiced, and critiqued.

### Prerequisites

None

## 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.

### Prerequisites

None

## 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. Fieldwork provides opportunities for measurement, sampling, and analysis of the physical environment.

### Prerequisites

None

## EVS201 - Global Environmental Issues

This course emphasizes in-depth, critical analyses of pervasive environmental issues that influence and are influenced by processes and policies attendant to globalization and development. Through critically analyzing readings and

presentations, students learn to recognize various strategies and techniques employed in the written and oral media to influence perceptions about environmental issues.

### Prerequisites

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 introducing environmental innovations. The focus is on applications of visual, oral, and written techniques to disseminate environmental ideas, messages, and technologies within countries/cultures foreign to the student. Methods in Participatory Rural Appraisal and Logical Framework Analyses are emphasized.

### Prerequisites

None

## EVS300 - Topics in Regional Development and Environment

This course explores environmental issues within selected regions of the world. Social, political, economic, and ecological dimensions of environmental issues/conflicts will be explored vis-à-vis the goals and processes of globalization and international development. Key issues which have affected each region in the past, and are likely to be significant in the future, are analyzed through case studies, film, discussion, and lecture.

### Prerequisites

ECN 102 or POL 120 or EVS 201

## 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. Relationships between historical/contemporary political structures and countries’ participation in international conventions/treaties are examined.

### Prerequisites

EVS 201, PPL 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 freshwater 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.

### Prerequisites

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

## EVS400 - Research Methods in Environmental Studies

This course covers the most current research methods commonly used to study the environment and its connections to societal, economic, and ecological activities and objectives. Depending upon the needs of the student cohort, quantitative, qualitative, and/or mixed methods are presented. Key topics include research questions, literature review, spatial/temporal dimensions, ethnographic approaches, surveys, personal interviews, and ethical research behavior. By the end of the course, students will present a prospectus for a senior thesis.

*2-credit course*

### Prerequisites

EVS 101 or EVS 100 and junior status

## EVS500, 501 - Independent Study

Independent study in Environmental Studies allows a student to do individual work, under the guidance of a qualified instructor/mentor, 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 Director of Environmental Studies. The project must be approved by the student’s advisor, the Director of Environmental Studies, 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

EVS 100 or EVS 101 and EVS 400

# EXPERIMENTAL PHYSICS

Classifications: Major Emphasis

**Department Chair:** Cory Christenson, Ph.D.

Experimentation, the process of *characterizing* the physical world, forms the bedrock upon which we build a scientific *understanding* of our Universe. Indeed, assessing a scientific theory’s power to *explain* or *predict* relies on careful and reliable

observation of the system under study. The Experimental Physics major emphasis introduces students to core measurement paradigms - spectroscopy, interferometry, *etc.* - and trains students in industry-standard techniques for generating and interpreting robust measurements: experimental design, instrumentation, electronics, and data analysis. This major emphasis prepares students for graduate study or technical work in a variety of fields such as engineering and medical physics.

**MAJOR EMPHASIS IN EXPERIMENTAL PHYSICS:** [MTH 151](#), [MTH 152](#), [PHY 101](#) or [PHY 107](#), [PHY 108](#), [PHY 209](#), [PHY 219](#), [PHY 250](#), and these specific requirements for the emphasis: [PHY 322](#), [PHY 350](#); [PHY 220](#); three 300-level PHY lecture courses. Capstone: [PHY 441/442](#) with laboratory-based project.

## FINANCE

Classifications: Major, Minor

**Steering Committee:** Leslie Dunn, Ph.D.; Stephen Kuhn, CPA, CMA, MAcc.; Keun Jae Park, Ph.D.

**Department Chair:** Lori Galley, Ph.D.

The Finance program of the Department of Business provides students with the opportunity to develop the foundational knowledge of finance appropriate for entry-level positions in financial service organizations, graduate study in business or when combined with additional preparation in mathematics, graduate study in finance. The curriculum includes courses in economics, mathematics, accounting, investment and portfolio theory, security analysis, and managerial (corporate) finance. Within the college's liberal arts environment, the program develops technical competency in basic finance while stressing critical thinking and analysis, as well as technology, writing, and oral communication skills.

**MAJOR REQUIREMENTS:** [BUS 201](#); [ECN 101,102](#); [MTH 125](#); [ACC 211, 212](#); [FIN 341, 342, 446, 498](#) and two elective courses from [344, 397, 445, 497](#), or [ACC 354](#).

**MINOR REQUIREMENTS:** [ECN 101](#); [MTH 125](#); [ACC 211](#); [FIN 341, 342](#), and one of the following: [344, 397, 445, 446](#), or [497](#). Due to courses common to the accounting major and finance minor, the requirements of the minor for students majoring in accounting are as follows: [FIN 342, 446](#) and two elective courses from [344, 397, 445, 497](#), or [498](#).

### NOTES:

**Transfer Courses:** In satisfying the requirements of the major or minor, the program requires that the following courses be completed at Washington & Jefferson College: [ACC 211,212](#); [FIN 341, 342, 446](#), and [498](#). Students may petition the program coordinator to waive this requirement in special circumstances.

**Alternative Course of Study:** Students desiring a more general background in business may complete an optional emphasis in finance in the context of the business administration major. See [BUSINESS ADMINISTRATION](#).

**Restrictions on Combinations of Courses of Study:** Students majoring in finance may not complete a second major in economics, business or accounting, but may complete one minor

in economics, accounting or entrepreneurship. Students majoring in finance may not complete a minor in business.

**Prerequisite Grade Requirement:** A grade of C or better is required to satisfy the prerequisite requirement for any finance (FIN) course serving as a prerequisite for other finance (FIN) courses.

**Consideration For Graduate Work:** Students considering doing graduate work in finance are encouraged to pursue additional math courses, such as [MTH 151, 152, 208, 217, 308, and 415](#) while at Washington & Jefferson College. Students should consult with their advisor regarding mathematics preparation for graduate school.

### FIN341 - Principles of Finance

This course is an introduction to the three primary areas of finance - financial markets and institutions, investments, and managerial (corporate) finance. Basic principles of finance are introduced and applied to the study of financial market operations, the valuation and pricing of securities and other financial assets, and corporate decision making including capital budgeting analysis.

#### Prerequisites

ECN 101, ACC 211 and MTH 125

### FIN342 - Investments and Portfolio Theory

This course introduces the theory and related applications of the field of investments, including portfolio theory and management. Investment opportunities and strategies related to equity, fixed income, and derivative securities are discussed in depth. Additionally, the process of creating, maintaining, and evaluating the performance of professional investment portfolios is investigated. This is the same course as BUS 342.

#### Prerequisites

FIN/BUS/ECN 341

### FIN344 - Corporate Finance

An introduction to the financial management of corporate business organizations including investing, financing, and operating decisions within the context of financial planning and analysis.

#### Prerequisites

ACC 212 and FIN 341

### FIN397 - Special Topics in Finance

Special topics courses are occasionally offered to broaden or enhance the financial economics curriculum beyond regular catalog offerings to include items of specialized interest or current or emerging events. Students' transcripts will indicate the titles of specific course offerings.

#### Prerequisites

FIN 341 and others according to topic

## FIN445 - Financial Analysis and Modeling

An introduction to strategic business analysis, financial statement analysis, and modeling of forecasted financial information, all in the context of equity valuation and credit evaluation.

### Prerequisites

FIN/ACC/BUS 344

## FIN446 - Security Analysis and Valuation

An introduction to the fundamental concepts and techniques for analysis and valuation of both fixed income and equity securities. Topics in fixed income securities include the features of fixed income instruments, the valuation of a wide variety of fixed-income securities, the term structure of interest rates, and the concepts of duration and convexity for managing bond portfolios. Topics in equity securities include industry analysis, financial statement analysis, and valuation techniques that are popularly used by financial professionals.

### Prerequisites

FIN 342

## FIN497 - Advanced Topics in Finance

Advanced topics courses are occasionally offered to broaden or enhance the financial economics curriculum beyond regular catalog offerings to include items of specialized interest or current or emerging events. Students' transcripts will indicate the titles of specific course offerings.

### Prerequisites

FIN 342 and others according to topic

## FIN498 - Finance Seminar

An investigation of advanced topics in security analysis and portfolio management, including derivative securities. Requires the completion of a capstone project centered on the analysis and valuation of equity security, including preparation and presentation of a comprehensive analysis report. Also, includes topics related to ethical considerations in providing financial services.

### Prerequisites

FIN 446 or permission of the instructor

## FIRST YEAR SEMINAR

Classifications: Other

**Steering Committee:** Thomas Contreras, Ph.D.; Leslie Dunn, Ph.D.; Michael Wolf, Ph.D.

**Program Directors:** Leslie Dunn, Ph.D.

First Year Seminar (FYS), required of all first year students during the Fall Term, is a course designed especially for new students at Washington & Jefferson College. First Year Seminars are small, participatory classes that help students transition to college life. We offer many 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 close reading, critical thinking, information literacy, communication skills, and analysis of textual evidence; and by introducing students to ethical reasoning and ethical leadership. Students are mentored by FYS professors, who serve as academic advisors to the students in their FYS sections, and by accomplished peer mentors who are paired with FYS sections.

Each year, First Year Seminar is taught by faculty from many departments and programs of the College.

## FYS199 - First Year Seminar

All new full-time, first-year students must enroll in a First Year Seminar course (FYS 199) during the Fall term. Many topics are offered each year, and students indicate topic preferences during the Gateway onboarding process. See the [Area of Study](#) description for the First Year Seminar program for further information.

*Offered: Fall term only*

### Prerequisites

None

## FORENSIC SCIENCE

Classifications: Minor

**Steering Committee:** Jennifer Bayline, Ph.D.; Elizabeth Bennett, Ph.D.; Candy DeBerry, Ph.D.; Stuart Miller, Ph.D.; Cathy Petchel, M.A.

**Program Directors:** Elizabeth Bennett, Ph.D.; Candy DeBerry, Ph.D.

Science has had an enormous impact on the definition and enforcement of the laws enacted to regulate society. Forensic science is the application of scientific principles to criminal and civil laws within a criminal justice system with the goal of establishing guilt or innocence. The interdisciplinary minor in Forensic Science is designed to introduce students to some of the specialized fields of forensic science and the fundamental principles of science and technology upon which they are based. Course work will provide students with: an introduction to the forensic processes of evidence collection and scientific analysis, the scientific study of human behavior, and the mathematics of collecting and interpreting data; an introduction to human behavioral and societal structures, and the criminal justice system; and an advanced study option of either advanced forensic laboratory procedures and techniques or advanced aspects of forensic psychology.

**MINOR REQUIREMENTS:** [FOR 100](#); [PSY 101](#); [MTH 125](#) or [MTH/ BIO 245](#); [PSY 102](#) or [SOC 101](#); one of the following: [CHM 270](#), [PSY 245](#), [PSY 226](#), [PSY 345](#), [PSY 380](#), [SOC 223](#), or [SOC 323](#); and one of the following: [BIO 412](#), [CHM 385](#), [PSY 226](#), or [PSY 345](#).

Psychology majors can count no more than three courses from the forensic science minor toward their psychology major. Psychology minors can count no more than two courses from the

forensic science minor toward their psychology minor.

### **FOR100 - Introduction to Forensic Science**

A laboratory-based course in which students are introduced to concepts and techniques used for collection, scientific analysis, and presentation of crime scene evidence. Registration preference is given to students enrolled in the forensic science minor. Maximum 16 students.

(Note: Formerly offered as SCI 100: Forensic Science and BIO 100: Forensic Science)

#### **Prerequisites**

None

### **FOR247 - Topics in Forensic Science**

This course is a study of a special topic in forensic science. The topics will vary from offering to offering based on faculty and student interest. Courses that fit this description will generally have a focus in forensic science that does not fit into a particular discipline or will have an interdisciplinary focus that crosses disciplinary boundaries. Topics may include history of forensic science; physics and crime scene reconstruction; research on jury decision making; the legal system in film: fact or fiction; and the jury system around the world: a cross-cultural perspective. Course can be retaken for credit when topics are different.

#### **Prerequisites**

Determined by instructor

### **FOR500, 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 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**

None

## **FRENCH**

Classifications: Major, Minor

**Faculty:** Elizabeth Leet, Ph.D.; Sharon Taylor, Ph.D.

**Program Directors:** Sharon Taylor, Ph.D.

**Department Chair:** Katherine Ternes, Ph.D.

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

More than 300 million people speak French on five continents. It is a globally important language of trade, culture, and political systems and it is the second (after English) most commonly taught language around the world. In fact, W&J is only hours away from numerous francophone communities in bi-lingual Canada. Because of French's wide international reach, it is fitting that French students at W&J learn the skills necessary to communicate in culturally appropriate ways with French speakers of diverse francophone communities. Courses at the 100 level are elementary in nature and focus on everyday interactions, basic exchanges of information, and familiarity with French, as well as other francophone cultures. Courses at the 200 level are intermediate in nature, building upon foundational communicative skills as well as broadening students' understanding of the cultural diversity of French-speaking communities and their textual and visual products and traditions. Courses at the 300 level emphasize the further development of skills in speaking, reading, listening, and writing for the purposes of obtaining information and expressing oneself on a wide variety of topics of personal and social concern. Courses at the 400 level address topics of cultural and literary significance in a wide variety of francophone contexts and are designed to further hone students' expressive abilities while deepening their understanding of the French-speaking world.

**PLACEMENT PROCEDURES:** All entering freshmen with prior experience in French will receive language placement by the 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:** Modern language majors at W&J complete six advanced (300-level or above) courses as well as an experience abroad. A minimum of three of the six required advanced courses are taken at the 400-level.

Students majoring in French also complete a capstone project in consultation with their major advisor and the French program coordinator. Students complete a research project (paper and presentation) on a substantive topic as part of a 400-level course or Independent Study, or an electronic portfolio in French attesting to the student's achievement in all of the five national standards: Communication, Culture, Connections, Comparisons, and Communities (see Departmental Mission Statement).

Modern language majors can complete two foreign language majors.

**STUDY ABROAD:** All modern language majors spend a minimum of one semester, or the academic equivalent, on a study abroad program (course of study or internship) that has been

pre-approved by the language program director. The approved program follows general College study-abroad guidelines. JayTerm travel courses and Magellan projects abroad do not count toward the study abroad requirement.

**MINOR REQUIREMENTS:** Like the major, French minor requirements vary according to entry-level, as determined through the placement procedure. Because of the varying requirements for completing 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](#). No course taught in English may count toward the minor.

Students who begin in 105 will take seven classes, including [105](#), [106](#), [207](#), [208](#), [309](#), [310](#), and one 400-level.

Students who begin in 106 will take six classes, including [106](#), [207](#), [208](#), [309](#), [310](#), and one 400-level.

Students who begin in 207 will take five classes, including [207](#), [208](#), [309](#), [310](#), and one 400-level.

Students who begin in 208 will take four classes, including [208](#), [309](#), [310](#), and one 400-level course.

Students who begin in 309, 310 or the 400-level 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.

**TEACHER CERTIFICATION:** Students may seek Specialty Education (grades PreK-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 PreK-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.

## FRN105, 106 - Elementary French I, II

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.

### Prerequisites

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

## FRN207, 208 - Intermediate French I, II

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. Students 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 - Topics in French Literature/ Culture in Translation

This course concentrates on a literary or cultural topic that varies from year to year. Representative topics include Introduction to the Francophone World, Hollywood Remakes of French Films, Avant-Garde Theatre.

*Taught in English.*

### Prerequisites

FRN 310 or permission of the instructor

## 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 requires 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.

*Taught in English.*

*Offered fall term, every other year.*

### Prerequisites

Sophomore status and permission of the instructor

## FRN305 - French Conversation and the Francophone World

This course is designed to immerse students in an environment that stresses oral communication in French through the study of current events, culture, and cinema. Using authentic French materials, students will practice their conversational skills as well as enhance their knowledge of French and Francophone society and culture. Working interactively with the instructor and classmates, students will develop speaking skills needed to discuss various cultural, social, and political issues relevant to the Francophone world. This course is taught in French and counts as an elective toward the French major.

### Prerequisites

FRN 207 or permission of instructor

### FRN309, 310 - Advanced French I, II

These courses focus on the development and application of advanced functional French language skills, with special emphasis on speaking and writing. Reinforcement and extension of grammar concepts are 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

### 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*

#### Prerequisites

FRN 310 or permission of the instructor

### FRN411 - Introduction to Literary and Cultural Studies

This course introduces students to the foundational methods for studying French literature and culture at the intermediate-high to advanced-low levels of proficiency in speaking, reading and writing French. Students will acquire the skills necessary to analyze and discuss literary and visual texts by examining them in their historical, intellectual and social contexts. Emphasis is on close reading, comparative study and language development.

#### Prerequisites

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. Representative topics include The French Through Their Films and Francophone Cinema. Emphasis is given to advanced language study, composition, and oral proficiency. The topic varies from year to year and will be published in the preregistration bulletin.

#### Prerequisites

None

### FRN457 - Topics in French and Francophone Literature

A course in reading and interpreting French and Francophone literature in esthetic and cultural contexts, students read and gain an appreciation of texts from a variety of genres and historical periods. Representative topics include French African and Caribbean Literature, Gender and Love in Women's Writing, Sex and Space in Text and Film, Supernatural and Salacious: Medieval Short Fiction, The Fantastic in Text and Film, and Exile and Belonging in French and Francophone Texts. Emphasis is given to advanced language study, composition, and oral proficiency. The topic varies from year to year and will be published in the preregistration bulletin.

#### Prerequisites

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 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

None

## GENDER & WOMEN'S STUDIES

Classifications: Major, Minor

**Steering Committee:** Amanda Holland-Minkley, Ph.D.; Carolyn Kyler, Ph.D.; Kathleen McEvoy, Ph.D.; Dana Shiller, Ph.D.; Sharon Taylor, Ph.D.

**Program Directors:** Carolyn Kyler, Ph.D.

Gender and Women's Studies is an interdisciplinary program 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.

**MAJOR REQUIREMENTS:** Ten courses including [GWS 100](#), [GWS 300](#), [GWS 350](#), [GWS 500](#) or [501](#), and six GWS elective courses. The elective courses may include additional GWS courses, such as [GWS 210](#) and [GWS 398](#), as well as courses in

other programs that have been approved as GWS electives by the Gender and Women's Studies Steering Committee. The elective courses must come from at least three academic programs, must include at least one course at the 300-level or above, and must include at least one course with a focus on international issues. 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. The capstone requirement is met by an independent study project (GWS 500 or 501) that includes a public presentation of the work. Capstone projects may include an internship or service-learning component.

**MINOR REQUIREMENTS:** Six courses including [GWS 100](#), [GWS 300](#), and four additional elective courses. The elective courses may include additional GWS courses, such as [GWS 210](#), [350](#), and [GWS 398](#), as well as courses in other programs that have been approved as GWS electives by the Gender and Women's Studies Steering Committee. The elective courses must come from at least two academic programs. 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 & 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 experiences 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.

### Prerequisites

None

## 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.

### Prerequisites

GWS 100

## GWS350 - Applied Studies in Gender

This seminar-style course focuses on studying an issue in Gender and Women's Studies using multiple problem-solving approaches. Students will apply their knowledge and theories from previous courses and will gain practice in research, writing, and presentation.

### Prerequisites

GWS 100 and at least three additional GWS or GWS affiliated courses. GWS 300 is recommended

## GWS398 - Practicum

This course provides a student with the opportunity to work with an off-campus agency or organization that provides services related to issues of gender. In addition to spending time in the field, the student will make connections between real-world experience and course work related to theoretical perspectives or scientific data.

### Prerequisites

GWS 300 or PSY 382 and permission of the program director

## 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 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

None

## GERMAN

Classifications: Major, Minor

**Faculty:** Cathy Altmeyer, M.A.; Judith Atzler, Ph.D.

**Program Directors:** Judith Atzler, Ph.D.

**Department Chair:** Katherine Ternes, Ph.D.

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 the 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:** Modern language majors at W&J complete six advanced (300-level or above) courses as well as experience abroad. A minimum of three of the six required advanced courses are taken at the 400-level.

Modern language majors also complete a capstone project in consultation with their major advisor. These capstones do not take the format of a course but may include a special research project associated with a 400-level course or Independent Study, a follow-up presentation on a language intensive internship, or a pre-approved special project associated with a semester-length study abroad experience.

Modern language majors can complete two foreign language majors.

**STUDY ABROAD:** All modern language majors spend a minimum of one semester, or the academic equivalent, on a study abroad program (course of study or internship) that has been pre-approved by the language program director. The approved program follows general College study-abroad guidelines. JayTerm travel courses and Magellan projects abroad do not count toward the study abroad requirement.

**MINOR REQUIREMENTS:** Like the major, German minor requirements vary according to entry-level, as determined through the placement procedure. Because of the varying requirements for completing a minor in German, it is to the student's advantage to begin at the highest level possible, usually GER 207 or GER 208. However, students with very limited or no background in German will begin their studies with GER 105 or

GER 106. No course taught in English may count toward the minor.

Students who begin in 105 will take seven classes, including [105](#), [106](#), [207](#), [208](#), [309](#), [310](#), and one 400-level.

Students who begin in 106 will take six classes, including [106](#), [207](#), [208](#), [309](#), [310](#), and one 400-level.

Students who begin in 207 will take five classes, including [207](#), [208](#), [309](#), [310](#), and one 400-level.

Students who begin in 208 will take four classes, including [208](#), [309](#), [310](#), and one 400-level course.

Students who begin in [309](#), [310](#) or the 400-level 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 entering freshmen with prior experience in German will receive language placement by German program faculty. This placement will determine their first course in the sequence. Because of the varying requirements for completing a German 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.

**TEACHER CERTIFICATION:** Students may seek Specialty Education (grades PreK-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 PreK-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.

## 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.*

### Prerequisites

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 - Two Germanys**

Prior to 1945, Germany was one of the US and the Soviet Union's main enemies in two world wars, but this changed at the end of the 1940s when Germany was split into two and became the front-line of the Cold War, separating the capitalist West from the communist East of Europe. West Germany became one of the most reliable allies of the US, while its eastern part looked at Moscow for answers.

In this course, students will turn back time and start in 1945 and investigate how this change from a conflict-ridden nation to an important ally for the US (West Germany) and for the Soviet Union (East Germany) was possible and how it played out over time. Students will compare the two German nations that grew out of the ruins of World War II and study their different ideologies, their social and political cultures, and the roles that the US and the Soviet Union played in the two German states. They will also analyze how it finally was possible to tear down the Wall (peacefully) by tracing changes that occurred in the Soviet Union in the 1980s. Finally, they will examine what conflicts and issues resulted from the German Reunification that is still present today more than 25 years after the fall of the Berlin Wall and how Germany is an important player in world politics (e.g. Russia-Ukraine Conflict).

No previous knowledge of German language required. Taught in English.

### Prerequisites

None

### **GER257 - Topics in German Literature/ Culture in Translation**

This course concentrates on a literary or cultural topic that varies from year to year. The course is taught in English.

### Prerequisites

None

### **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 requires 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.

### Prerequisites

None

### **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 a 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.

### Prerequisites

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.*

### Prerequisites

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.*

### Prerequisites

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 a review of advanced grammar as necessary.

*Taught in German*

### Prerequisites

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*

### Prerequisites

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 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

None

## HEALTH AND SOCIETY

Classifications: Minor

**Steering Committee:** Danielle Ficco, Ph.D.; Mark Harris, Ph.D.; Anupama Shanmuganathan, Ph.D.; Kelly Weixel, Ph.D.; Michael Wolf, Ph.D.

**Program Directors:** Mark Harris, Ph.D.

The Health and Society minor is a broadly interdisciplinary program of study that is designed to expose students to various cultural, legal, ethical and social factors that influence health and healthcare. This minor is open to all students but particularly appropriate for those beginning or completing pre-health studies.

**HEALTH AND SOCIETY MINOR REQUIREMENTS:** Five courses from the following, with no more than two with the same prefix: [CRS 101](#), [ECN 309](#), [ECN 326](#), [GWS 100](#), [HIS 275](#), [PHL 130](#), [PHL 137](#), [PHL 225](#), [PHL 232](#), [PHL 236](#), [POL 302](#), [PPL 213](#), [PSY 102](#), [PSY 245](#), [PSY 265](#), [PSY 285](#), [PSY 292](#), [PSY 361](#), [PSY 380](#), [SPN 250](#), [SPN 311](#), [SOC 101](#), and any other courses approved by the Health Studies Steering Committee. Students must also write a paper and give a presentation to the steering committee that summarizes their synthesis and reflection of healthcare influences and determinants.

At least three courses in this minor must be unique to the minor and not be used to satisfy the requirements of any other major or minor.

## HISTORY

Classifications: Major, Minor

**Faculty:** Julia Bernier, Ph.D.; Ketaki Jaywant; Victoria D. List, JD, Ph.D.

**Department Chair:** Victoria D. List, JD, Ph.D.

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 Asian history. Majors and minors complete requirements that are distributed in a way that ensures both depth and breadth.

The History major consists of ten courses, including at least two from European history, at least two from American history, and at least one from outside of American and European history. Students must also complete [HIS 290](#): Thinking Historically and either [HIS 400](#): Senior Seminar or an Independent Study ([HIS 500](#) and/or [501](#)). Four of the ten courses must be at the 300-level or above. Students completing an independent study (HIS 500) or

a senior honors project (HIS 500 and 501) may have the HIS 400 requirement waived, with the approval of the department.

No more than three courses at the 100-level may be counted toward the major. Majors are encouraged to complete HIS 290 in their sophomore year, prior to enrolling in 300-level classes, and must complete it prior to enrolling in HIS 400. All majors are strongly urged to complete a foreign language through the Intermediate level.

Students contemplating graduate study in history or a related field should gain advanced proficiency in the languages in which they contemplate doing research and are strongly encouraged to study abroad in a region in which those languages are spoken or complete a language immersion program.

The History minor consists of six courses, as follows: two courses in American history; two courses in European history; one course from outside of American and European history, and [HIS 290](#). Two of the six courses must be at the 300-level or above. No more than two courses at the 100-level may be counted toward the minor except with the permission of the departmental chair.

**AP Policy:** Students scoring a 5 on the American History AP test receive credit for [HIS 110](#) or [HIS 111](#) (depending on student preference) and are advised to take a 200-level course as their first history course at W&J. Students scoring a 4 on the American History AP test receive credit for either HIS 110 or HIS 111 upon successful completion of a 200-level American 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 European history course at W&J with a grade of "B" or better.

Students scoring a 5 on the World History AP test will receive credit for [HIS 103](#). Students scoring a 4 on the World History AP test will receive credit for HIS 103 if they complete a 200-level history course at W&J with the 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 recommended Social Studies 7-12 content area courses ([HIS 110](#), [HIS 111](#), [HIS 120](#), [HIS 121](#), [ECN 102](#), [POL 111](#), [PSY 101](#), [SOC 101](#), and [EDU 205](#)), 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 (grades 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.

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 102](#), [HIS 103](#), [HIS 110](#), [HIS 111](#), [HIS 120](#), [HIS 121](#), [HIS 151](#) as well as a range of 300-level courses. Occasionally, special topics courses ([HIS 270](#) or [HIS 370](#)) may be offered in topics particularly useful for students interested in teaching.

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

## HIS102 - Western 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.

### Prerequisites

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

## HIS103 - Issues in World History

This course examines a significant theme of world history over an extended period of time, including ancient, medieval or early modern, and modern periods of history, compares and contrasts different case studies, and analyzes changes and continuities over time. Significant themes in world history could include Ancient and Modern Empires, Global Trade and Production, Revolutions, etc.

### Prerequisites

None

## HIS110 - U.S. History and Culture to 1877

This class functions as an introduction to early American history, focusing on the history of what would become the United States from the colonial period through Reconstruction. We will study the defining questions that Americans and others confronted in this era: What kind of a nation is the United States? Who "counts" as an American, and what rights, privileges, and obligations does that identity entail? How have ideas about "Freedom" and "Unfreedom" shaped the nation? What is the United States' role in the world and as an empire? To examine these questions we will cover a variety of topics, such as settler colonialism and slavery, watershed moments like the national founding and Civil War, the experiences of Indigenous people, the freedom struggles of African Americans, other social and reform movements, and the role of race, gender, and sexuality in shaping the period.

### Prerequisites

None

## HIS111 - U.S. History and Culture Since 1877

This class functions as an introduction to U.S. history, beginning with the end of Reconstruction and concluding in the present moment. We will study the defining questions that Americans and others confronted in this era: What kind of a nation is the United States? Who "counts" as an American, and what rights, privileges, and obligations does that identity entail? How have ideas about "Freedom" and "Unfreedom" shaped the nation? What is the United States' role in the world and as an empire? To examine

these questions, we will cover a variety of topics, including the freedom struggles of African Americans, Latinx Americans, Indigenous people, Asian Americans, LGBTQ+ Americans, and others; the roles that ideas about race, gender, and sexuality have played in the making of the modern United States; the migration of people within, into, and out of the United States; major social and political movements including Progressivism, the New Left, and the New Right; and major conflicts including the First and Second World Wars, the Vietnam War, and the U.S. Wars in Iraq and Afghanistan.

### Prerequisites

None

## HIS120 - Making Modern Europe

This course explores the history of Europe in the 18<sup>th</sup> and 19<sup>th</sup> centuries, from the Age of Absolutism to the eve of WWI. This extraordinary era witnessed fundamental change across the European continent. From the rise of mass politics to new patterns of labor and consumption to major scientific advances, Europe was forced to rethink its identity. Activists challenged accepted norms of class, gender, citizenship, and nation, while imperialism brought issues of race and “civilization” to the fore. Philosophers, scientists, and artists sought in different ways to define the human condition and discover underlying truths about what makes us who we are. The Europe that emerged from this turmoil was substantially different, yet Europeans were no closer to agreeing on a unified identity and ideals. By exploring the conflicts, triumphs, and tragedies of the 18<sup>th</sup> and 19<sup>th</sup> centuries, we will develop our knowledge of Europe past and present and gain a deeper understanding of the issues that continue to shape Europe and the global space today.

### Prerequisites

None

## HIS121 - Europe's Long 20th Century

This course explores the history of Europe in one of its most challenging eras, the “long” 20<sup>th</sup> century. The journey begins at the *fin de siècle*, a time of rapid technological advance, exciting artistic innovation, and troubling political developments, and carries through to the present moment, where these issues still echo in surprising ways. As we investigate this tumultuous century, we will analyze a variety of themes, including rival theories of how societies ought to be governed, who ought to be included or excluded from the community, how individuals and groups ought to live, and what forms culture ought to take. We will encounter arguments for democracy, socialism, fascism, nationalism, internationalism, isolationism, and more. Recognizing that modern European history is global in its reach, we will also examine imperialism, decolonization, and their consequences. Through close reading and discussion of primary and secondary sources, we will investigate how the idea of Europe has evolved over the long 20<sup>th</sup> century and make sense of where Europe finds itself today.

### Prerequisites

None

## HIS130 - Russia from Origins to Empire

This course explores the history of Russia from the emergence of Kievan Rus in the ninth century until the collapse of Imperial Russia in 1917. Along the way, it traces major developments in Russian society, politics, and culture, as well as Russia’s changing relationship with its neighbors in Europe and Asia. Using primary sources, we will encounter the ideas, dreams, and everyday experiences of a variety of historical actors, including nobles, peasants, workers, women, and subjects of empire. Our goal is to interrogate the questions Russians have asked themselves throughout their history: Is Russia fundamentally a Western or Eastern country? What form of government suits it best? What is the proper role of women, minorities, and the laboring masses in politics and society? Is there a unique “Russian soul,” and if so, how can it be expressed? As we dig deep into these questions, our primary mode of learning will be student-led discussion. This course will build students’ skills in close reading, creative thinking, analytical writing, and vibrant debate.

### Prerequisites

None

## HIS131 - The Soviet Union and Russia Today

This course explores Russia’s unique journey through the twentieth century, an era that saw the death of the Empire, the rise and fall of the Soviet Union, and the founding of the Russian Federation, a young country that remains in flux. It will focus primarily on the triumphs and tragedies of the Soviet era, which we will examine from a variety of angles, including power politics, economic development, everyday life, and creative expression. As we make our way from revolutionary utopianism to authoritarianism, from stagnation to thwarted rebirth, we will listen to a variety of voices. Through close reading and discussion of primary sources, supplemented by lectures, we will discover the perspectives of workers-turned-Stalinist elites, “modernized” minorities, liberated but overburdened women, dissidents dreaming of a better world, and more. Throughout the semester, our goal will be to make sense of the Soviet experience and begin to understand how the events of the past hundred years have contributed to the development of the Russia we know today. This course will build skills in close reading, creative thinking, analytical writing, and vibrant debate.

### Prerequisites

None

## HIS151 - Asian Heritage

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.

### Prerequisites

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

## HIS205 - Remembrance and Memorialization in U.S. Culture

Why do individuals and groups seek to remember and memorialize events from the past, including those that are traumatic and troubling? What events are worthy of remembrance in U.S. culture? Why? Who decides? Why are the answers to these questions often contentious? In this class, we will explore how diverse groups of Americans have, in different moments, sought to remember key moments from the past and moments when remembrance has become controversial. As we do so, we will discuss how memorialization intersects with broader cultural and political debates. Topics may include wars, slavery and other incidents of racial violence, natural disasters, individuals with complicated histories, and acts of terrorism.

### Prerequisites

None

## HIS215 - The Civil War and Reconstruction

This course is an introduction to the Civil War era and its place in the history of the United States. We will cover a range of topics to better understand how the nation moved towards war over slavery, as well as key figures and events during the war and its aftermath, including the period known as Reconstruction. We will study the social history of the period, paying special attention to the role of abolitionists and African Americans, both enslaved and free, in transforming the course of the war and the nation itself. The Civil War era was a watershed moment for the United States as we know it and its legacies remain with us today. We will also think about how the Civil War and Reconstruction have been remembered and commemorated in the American imagination across time.

### Prerequisites

None

## HIS216 - War & Society in US Culture

This course examines the relationship between war, the military, and U.S. culture. We will focus less on how the military has been used in particular instances or on the history of particular wars and instead ask broader questions that emerge from understanding the military as a critical cultural institution. Among them will be: What should the relationship between the military and the nation be during times of war and peace? How have Americans, including service members and veterans, sought to define the military's place in American culture? How have wars and militarism created spaces for debating larger questions about national identity, race, class, gender, sexuality, and citizenship?

Among the topics we will consider are the relationship among military service, citizenship, and civil rights; debates about the citizen's obligations during wartime; military recruiting, the draft,

and the transition to an all-volunteer force; debates about the appropriate roles of women and gay and lesbian service members; and veterans' issues.

### Prerequisites

None

## HIS218 - Histories of the Present: Contemporary U.S. Culture

This course examines the history of the United States in the twenty-first century, paying particular attention to issues that have dominated media coverage in recent years: migration, economic decline, systemic racism, environmental crisis, reproductive rights, and war. Through readings and discussion of recent scholarship and long-form journalism as well as popular culture including film, television, fiction, and music, we will explore the histories of these contemporary crises, their impact on contemporary U.S. culture, and how Americans of diverse backgrounds have responded to them. As we do so, we will also discuss what can and should be done to address these challenges.

### Prerequisites

None

## 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.

### Prerequisites

None

## 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.

### Prerequisites

None

## HIS232 - Revolution! Europe at the Barricades

This course takes a transnational approach to exploring the theme of revolutions in modern European history. We will focus on three moments of revolutionary upheaval in Western and Central Europe: the French Revolution and Napoleonic Era (1789-1815), the "Springtime of Nations" in 1848, and the wave of student activism in the late 1960s. Our inquiry will be guided by these overarching questions: What issues have inspired revolutions in modern Europe? How does a movement become a revolution? When, if ever, is a revolution justified? Whose voices do we hear and

not hear? How do we assess a revolution's impact? We will also compare our three revolutionary moments to each other and evaluate them in aggregate to see what they reveal about politics, society, and culture in Europe from the 18<sup>th</sup> century to the present. This class focuses on close reading and discussion of primary and secondary sources, with special emphasis on manifestoes, memoirs, and oral history.

### Prerequisites

None

## HIS233 - Big Ideas in Modern Europe

This course takes a deep dive into the major thinkers and major ideas that have made Europe—and the world—what they are today. Starting from the Enlightenment, we will work our way to the present, tracing how Europeans have understood the reality of their moment and dreamed big dreams for an idealized future. Throughout, we will consider ideas of good government, how to live in society, and what we owe each other as citizens of a country, a continent, or the world. Moving beyond the traditional notion of “great [white] men,” we will also think critically about how women and people of color have contributed to Europe’s intellectual journey, often without acknowledgement from mainstream society. By discussing philosophy, political tracts, and literature, we will develop a deeper understanding of Europeans’ highest ideals and darkest moments, as well as the impact of their thought experiments on the surrounding world.

### Prerequisites

None

## HIS235 - English History I

This course is an introduction to English history from the first settlements in Britain to 1688. Topics include the role of invasions, especially Roman, Germanic, and Norman, the development of monarchical institutions, the beginning and development of representative institutions, and the development of distinctly English society and culture.

### Prerequisites

None

## HIS236 - English History II

This course is an introduction to English history from 1688 to the present. Topics include the changing roles of monarchy and Parliament, the American Revolution, the rise of political democracy, the Industrial Revolution, the origins and growth of the English empire, World War I and World War II, and the distinctly English experience in terms of society and culture.

### Prerequisites

None

## HIS241 - The Stalinist Experience

This course takes a deep dive into one of the most consequential periods in Soviet history: the Stalin Era. Stalinism occupies a unique space in popular imagination, marked by

political terror and dictatorial excess. But as scholars have shown, this is not the whole story. Stalinism was, in historian Stephen Kotkin’s phrase, “a civilization,” and like any civilization, it generated a range of hopes, fears, aspirations, and wonder among those who lived through it. In this course, we will explore Soviet citizens’ experiences during the nearly 30 years Stalin held power by analyzing their creative productions and personal accounts. We will consider issues of propaganda and true belief, identity formation and self-fashioning, adoption of new values and courageous resistance. Along the way, we will also interrogate the radical economic, social, and demographic shifts that made this era so remarkable. Through close analysis and discussion, we will deepen our understanding of how the Stalinist experience shaped Soviet citizens’ imaginations and senses of individual and national selfhood and consider its legacy in Russia today.

### Prerequisites

None

## HIS245 - Topics in the History of Gender and Sexuality

This course examines histories of gender and sexuality in U.S., European, Asian, and Transnational contexts and will explore topics related to the lived experiences of people of diverse genders and sexual identities; campaigns concerning sexual freedom and reproductive rights; campaigns for education, property and political rights; and cultural production related to and produced by people of diverse gender and sexual identities.

### Prerequisites

None

## 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.

### Prerequisites

None

## 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.

### Prerequisites

None

## HIS272 - Introduction to Public History

Most Americans encounter history outside of the college classroom. They visit museums, memorials, and historic sites, watch documentaries, and visit websites. In this course, we will examine the challenges of doing history in public - What is the

role of history in the public sphere, and how does it contribute to broader debates in U.S. culture? How do historians use objects, images, and other media to convey historical narratives to a population that is often visiting for entertainment? How can complicated topics be accessibly presented? How should historians approach controversial issues in public settings? What ethical issues surround public history? The course will involve readings, site visits, guest speakers, and group work on a public history project.

### Prerequisites

None

## HIS275 - Topics in African American History

This course offers a close study of a selected topic in African-American history. It will consider how issues of race, racial identity, and racism intersect with other identity categories and how African-American experiences have been central to and informed by other aspects of U.S. and global history. Topics may include: The Underground Railroad in Fact and Fiction; Black Protest in 20th Century U.S. Culture; and Race, Medicine, and Society.

### Prerequisites

None

## HIS276 - Reform Movements in the 19th Century U.S.

This course will explore the main reform and activist movements that were formed and blossomed during the mid-nineteenth century. We will discuss a variety of movements, including abolition, women's rights, and resistance to Indian removal, as well as labor, marriage, and educational reform. We will look at the techniques and debates of these movements and both their successes and failures in changing the nation.

### Prerequisites

None

## HIS277 - The African Diaspora

This course is an introduction to the African diaspora across time and place from ancient times to the present. While the course will focus on the histories of the African diaspora in the Americas, it will not be limited to that region. The course will examine the varied histories of diaspora for people of African descent and how these experiences have shaped their histories, cultures, and broader worlds. We will examine topics like the Transatlantic Slave Trade and comparative emancipations, the global ramifications for movements like Pan-Africanism and Black Power, and contemporary demands for reparations and abolition.

### Prerequisites

None

## HIS278 - Law and Belonging in Early America

This course serves as an introduction to the relationship between law and society in the early United States through the framework of belonging. It will cover a range of topics related to early American law and questions of belonging, in particular questions about race, gender, sovereignty, and citizenship. We will look to understand the ways that slavery, unfreedom, race, and white supremacy, as well as the activist and intellectual traditions of different groups influenced foundational ideas of citizenship, belonging, and liberty in early America. We will pay particular attention to the experiences of women, African Americans, Indigenous peoples, and immigrant groups. Students will analyze some of the landmark cases, texts, and theories from the period and their bearing on the course's theme.

### Prerequisites

None

## HIS279 - The Underground Railroad in History and Culture

This course will explore the history of, as well as our ideas about, the Underground Railroad (UGRR). Through both historical texts and different forms of cultural production, we will study what has remained one of the most culturally intriguing forms of resistance to slavery. Engaging with the ways in which African Americans sought self-emancipation through their escapes from slavery, we will seek to understand how African American communities understood, imagined, and contested both their enslavement and freedom. In studying the fantastic and harrowing escapes made by African Americans on the UGRR, we will also think about the ways this network of freedom has been portrayed and remembered. While the course will provide students with a firm grasp of both primary and secondary sources in the history of the UGRR and thus the historical study of slavery and abolition, we will also explore contemporary work like Colson Whitehead's *The Underground Railroad*, the television show *Underground*, children's literature, public history, and memory work. We will also ask what the activist traditions of the underground, and our cultural memory of them, can tell us about our current moment.

### Prerequisites

None

## HIS280 - Slavery in America

In this course, we will explore the history of slavery in the lands that would become the United States. We will focus on the experiences of enslaved people, but we will also explore slavery as an institution, its importance to the state, its influence on the social, legal, economic, and political life of the U.S., and its role in American empire. We will also consider slavery's afterlives, defined by Saidiya Hartman as the way "black lives are still imperiled and devalued by a racial calculus and a political arithmetic that were entrenched centuries ago."

## Prerequisites

None

## **HIS281 - Black Protest in 20th Century U.S. Culture**

From anti-lynching protests in the 1890s to the Black Lives Matter movement, African Americans have struggled to secure rights, freedom, and an end to violence and oppression throughout the "long twentieth century." This course examines that history through an interdisciplinary investigation of African Americans' multiple, competing, and often contentious struggles for rights and representation in the long 20<sup>th</sup> century. In this course, we will complicate the common misconception that emphasizes the 1950s and 1960s as the only period of African-American protest and activism and instead ask how African-American freedom struggles have evolved over the course of the past 125 years. Among the topics we will consider are the emergence of rights movements that range from pragmatic to radical; the tension between non-violent and armed resistance; debates over African-American military service; efforts to address lynching, segregation, police violence, incarceration, and other issues; the place of black women in the freedom struggle and in second- and third-wave feminism; the global dimensions of black activism; and the role that popular culture including literature, film, and hip hop have played in presenting and debating these issues.

## Prerequisites

None

## **HIS282 - Race, Medicine, and Society**

What does it mean to think about health and illness as social constructions, rather than as biological realities? What are the cultural factors that shape debates about which diseases are public health threats or warrant investments for research and treatment? What factors shape debates about who is considered sick and well, who deserves care and who does not, and what medical procedures are appropriate and ethical? How do we explain the occurrence of particular health conditions in racialized populations? How do we make sense of the tension between notions of race as a social construct and biological evidence that some groups are genetically predisposed to certain conditions? How do the intersecting discourses of race and medicine shape the material conditions of people's lives - the likelihood of becoming ill, of having access to care, or being perceived as deserving of support or being dismissed as a malingerer?

In this course, we will explore these questions by asking how ideas about race and ethnicity have intersected with, shaped, and been shaped by ideas about health, illness, public health, and the practice of medicine. We will examine the intersecting histories of the social construction of racial identity; racism and anti-racism; the quest for civil and human rights; and medicine and public health. In short, we will place the intersecting histories of race and medicine at the center of U.S. culture from the Civil War to the present, and ask what looking through that lens reveals about how Americans imagine who is part of the nation and who is not, and what the privileges or consequences of being in one category

or another are.

## Prerequisites

None

## **HIS290 - Thinking Historically**

Introduction to historiography and historical methodology in the context of the study of a special topic related to European, United States, or East Asian history. Students will discuss the evolution of historical thinking on the course topic, the range of sources that historians treat as evidence, and the various analytical approaches and theoretical frameworks that scholars use to write history. As well, students will discuss research methods, the evaluation of evidence, and strategies of analysis, argument, and presentation. This course is a prerequisite to HIS 400: Senior Seminar and is required for history majors and minors. Students are encouraged to complete the course in their sophomore year prior to enrolling in 300-level courses and must do so prior to the end of their junior year and before enrolling in HIS 400. Offered each semester.

## Prerequisites

One HIS course at the 200 level

## **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.

## Prerequisites

None

## **HIS305 - Immigration and Multiculturalism in Europe**

This course examines the influx of immigrants into Europe from former colonies, with special attention to immigration from Africa and South Asia, in the period after WWII. It emphasizes the political and cultural controversies that immigration has raised in Europe and the strategies governments at the national and supranational levels have developed to respond to such controversies. Emphasis will be placed on: race and racism, European Muslim identities, gender and sexuality, class and geographical segregation, and political backlash and violence towards persons of immigrant descent in Europe.

## Prerequisites

None

## **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.

## Prerequisites

None

### **HIS315 - Topics in European History**

Topics in European History is a seminar that focuses on a selected topic in European history. Topics could include examining an individual European nation in a particular time period or era, such as France since 1871 or Germany since 1871, a comparative theme that spans one or more European nations, such as nationalism in Europe since the French Revolution, or a particular sub-field of European history such as modern intellectual history. The course can be repeated when the topic changes.

## Prerequisites

A HIS course or First-Year Composition

### **HIS320 - The Cold War**

The Cold War looms large in the history of the 20<sup>th</sup> century and is often conceptualized in terms of superpower politics, diplomacy, and power plays. By focusing on the conflicting superpowers, this narrative sidelines the countries and citizens of Eastern Europe, framing them as mere pawns in the grand game played by the Soviet Union and the United States. But how did ordinary Eastern Europeans experience the Cold War? How did their actions and attitudes shape the larger conflict and propel national and international events in new directions? How did they understand their lives, loyalties, and roles as denizens of the socialist bloc? This seminar explores these questions by examining the Cold War from below. After establishing the key ideological divides that took hold after WWII, we will investigate the perspectives of a variety of ordinary actors, from journalists to working mothers to small town residents. We will also examine the role of “soft power” subjects like consumerism, gender norms, and cultural exchange, considering both how the superpowers attempted to use them to shape citizens’ attitudes and how those citizens responded. Finally, we will explore the part played by the masses in bringing the Cold War to a close. Over the course of the semester, we will develop our understanding of Eastern Europeans as players in their own right and rehabilitate their active role during a period of European history that continues to influence events today.

## Prerequisites

A 100- or 200-level HIS course

### **HIS321 - Cultural Construction in the Soviet Empire**

This course explores how Soviet leaders used culture to legitimize their authority and create a unified sense of identity across the vast territory they inherited from Imperial Russia. As an explicitly anti-imperialist regime, the Soviet Union faced a dilemma in asserting its governance over non-Russian lands after the revolution. Its leaders sought to mark their difference from the previous imperial regime and gain the loyalty of its diverse peoples by employing the rhetoric of national liberation and advancement. They supported the flourishing of national self-expression, yet their methods could be destructive and even violent. Their project also rested on a Eurocentric notion of

“modernity” that denied the value of non-Western ways of life. We will begin by investigating the development of Soviet nationalities policy, including questions of how to define a “nation” and what constitutes acceptable “national” expression. Then, we will explore clashes between tradition and modernization in Soviet Central Asia. Finally, we will focus on specific cultural genres, including literature and theater, music, and architecture, and explore efforts to bring these cultural products into conformity with Stalinist norms. Through close engagement with primary and secondary sources, we will discover the Soviet state’s motives for transforming minority cultures and methods for doing so. Further, we will learn how minorities resisted or repurposed Soviet nationalities policy to serve their own ends.

## Prerequisites

A 100- or 200-level HIS course

### **HIS322 - Music and Politics in 20th Century Europe**

What does it mean for music to be political? *Can* music be political? *Should* music be political? Who has the right to determine a musical work’s political meaning? In this course, we will explore the ways in which historical actors have created and used music for political ends in Europe across the 20<sup>th</sup> century and into the present. Working thematically, we will consider four major moments in European musical politics: the Soviet Union under Lenin and Stalin, Germany in the Weimar and Nazi eras, the youth protest movements of Cold War Europe in the 1960s-1980s, and our current moment of globalized culture. Along the way, we will explore how authoritarian regimes have tried to use music to serve their purposes, and how musicians have complied with or resisted such efforts. We will also consider the perspectives of musicians who used their music to make a political statement and discover how music influenced the thinking of protest leaders and disaffected young people on both sides of the Berlin Wall. Turning to the present, we will examine how musicians have tried to heal the rifts of the 20<sup>th</sup> century and think critically about what has been gained and lost in the process. Most of all, we will confront the indeterminacy of musical meaning. This course emphasizes close reading, careful listening, creative thinking, and vibrant discussion. No prior musical training is required; we will work together in class to develop our own vocabulary for discussing musical works.

## Prerequisites

A 100- or 200-level HIS course

### **HIS324 - Russian Revolutions from Peter to Putin**

This course explores the theme of revolutionary change in Russia from the reign of Peter the Great in the late 17<sup>th</sup> century to the presidency of Vladimir Putin today. Peter was one of Russia’s great revolution makers, orchestrating change in governance, sociability, and cultural expression and setting the stage for future revolutions from above and below. Peter’s imperial and Soviet successors in the 18<sup>th</sup> to 20<sup>th</sup> centuries embraced his method of

making sudden, sweeping changes. And in the new millennium, Putin has proved no less revolutionary. In each of these eras, revolution from above has been challenged by subjects and citizens who also draw on elements of the Petrine legacy. Working thematically, we will explore three types of revolution: the political, the social, and the cultural. Our exploration will take us through a range of primary and secondary sources, to which students will be asked to apply critical reading, writing, and analytical skills as we discuss them together. Our goal this semester is to explore the many meanings the term “revolution” may take, investigate the often-cyclical nature of revolutions, and interrogate why change in Russia has so often taken on a revolutionary character rather than following a more gradual path.

### Prerequisites

A 100- or 200-level HIS course

## **HIS325 - Abolition & Emancipation in the Atlantic World**

This course will focus on the transatlantic movement to end slavery in the Atlantic world from the Revolutionary Age to the late 19<sup>th</sup> century, with special attention given to how the activism and intellectual thought of people of African descent shaped both the abolition movement and emancipation. We will examine the abolition movement’s varied techniques as well as its relationship to broader societal change as Atlantic world nations moved, or were forced, towards emancipation. We will also seek to understand the experience of emancipation and how slavery continued to influence Black freedom.

### Prerequisites

A 100- or 200-level HIS course

## **HIS327 - Haiti and the Age of Revolutions**

Haiti has long shaped the history of the Atlantic world. While the Haitian Revolution haunted enslavers across the region, people of African descent and abolitionists looked towards the Black nation as an alternative revolutionary tradition. African Americans and others in the period understood the importance of Haiti’s success and the complex nature of its troubles and how its history and future are wrapped up in their own. This course will concentrate on African American intellectual, political, and social interactions with Haiti as an abolitionist politics and a place of Black freedom and Black futures in the Age of Revolutions.

### Prerequisites

A 110- or 200-level HIS course

## **HIS329 - Dispossession and the Making of the United States**

This course examines the role of dispossession in the early United States. We will study two particular, but also overlapping, forms of dispossession in the making of American empire, namely racial slavery and Indigenous land theft and genocide in a settler colonial state. As we interpret the historical relationship between slavery, settler colonialism, and dispossession, we will ask how people resisted these forces, as well as how these histories

continue to shape our present and the very form of the nation itself, its law, economy, and ideas about belonging, citizenship, rights, and freedom.

### Prerequisites

HIS 110 or written permission of the instructor

## **HIS330 - Slavery and the University**

This course will examine the historical relationship between universities and slavery in the United States. We will discuss how universities were born from and depended on the labor of enslaved people, as well as how institutions of higher learning were sites of intellectual thought around pro-slavery ideologies, white supremacy, and anti-blackness. We will also discuss how universities have been studying and addressing their pasts today, including discussions around research, reparations, and social justice initiatives on campus.

### Prerequisites

A 100- or 200-level HIS course

## **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.

### Prerequisites

None

## **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.

### Prerequisites

HIS 206 or permission of the instructor

## **HIS337 - The United States' War in Vietnam**

This course examines the United States’ involvement with Vietnam from 1945 to the present, with particular attention to the Second Indochina War (1954-1975) and its legacies. Among the topics that we will discuss are: the domestic and global political contexts that shaped U.S. involvement and conduct in Vietnam; the impact of U.S. support for a succession of South Vietnamese regimes on the people of Vietnam; Vietnamese and U.S. military and political strategies; U.S. domestic and global responses to the war; and the legacies of the war in both the United States and Vietnam.

### Prerequisites

HIS 201, 204, 206 or permission of the instructor

## HIS338 - 9/11 and the War on Terror in U.S. Culture

The terrorist attacks of September 11, 2001 and the United States' response to them stand as a defining moment for United States foreign policy in the twenty-first century. This course will examine the history of the post-September 11<sup>th</sup> period, asking both what the domestic and foreign policy responses to the attacks have been, how Americans engaged with those events and policies, and how they have been represented in popular culture. As we do so, we will read primary documents from the period, the best recent scholarship, and a range of popular texts that includes long-form journalism, documentary and feature film, fiction, and memorials. Our discussions will take seriously the premise that cultural texts do not simply reflect already-extant cultural ideas but rather play a critical role in the production of competing ideas about events, their cultural significance, and their political import. Our goal will be to analyze not only the events of September 11 and the United States' political, military, and cultural response to them but also how those events and responses are significant within larger debates about race, gender, citizenship, and patriotism in the contemporary United States as well as questions about the United States' role in global affairs.

### Prerequisites

A 100- or 200-level HIS course

## HIS340 - The U.S. and the World

This course will place U.S. cultural history in a global context as we ask how people within and outside of the United States have imagined and debated the United States' relationship with and role in the world. Focusing on the twentieth and twenty-first centuries, we will ask how the global flows of people, products, and ideas have shaped both U.S. culture and the cultures of other countries, regions, and peoples. In particular, we will read recent scholarship, and examine primary sources including diplomatic sources, media coverage, various forms of popular culture, from literature and music to film and tourism to assess how they have served as spaces in which these ideas could be produced and debated. Topics may vary to focus on particular issues (e.g. Popular Culture) or U.S. engagements with particular regions (e.g. The Middle East).

### Prerequisites

A 100- or 200-level HIS course

## HIS342 - After War: U.S. Culture in the Aftermath of Conflict

What happens after wars end? This seminar will examine critical issues that emerged to impact the lived experiences of veterans and civilians in the aftermath of the U.S. Civil War, the First and Second World War, and the U.S. War in Vietnam and analyze the responses that various constituencies have made to them. Topics will include the death, recovery, burial, and memorialization of American War dead; the needs and expectations of veterans and refugees; the occupation of countries with which the United States was formerly at war; and the environmental legacies of

warfare. In studying this history, we will also interrogate a larger question: How have individuals and groups sought to recuperate from war, and what have been the impacts and implications of those efforts?

### Prerequisites

A 100- or 200-level HIS course

## HIS370 - 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.

### Prerequisites

Two previous history courses or permission of instructor

## HIS372 - Public History: Design and Exhibition

In this course, students will develop and install a significant exhibit project in the community beyond Washington & Jefferson's campus. Students will be responsible for developing a course syllabus, collaborating with local partners and archives in the region and beyond, conducting research, managing a substantial budget, and developing a professional-level exhibit for a community partner. This course will require substantial independent work, collaboration with colleagues, and engagement with professional organizations around the nation. Topics will vary based on community partner interest.

### Prerequisites

Open to history majors and minors who have taken a 300-level history course. Others by permission of the instructor

## HIS374 - Documenting Lives: Oral History Theory and Practice

This course introduces students to the theory and practice of oral history. We will discuss the value that oral history offers in historical research and its relationship to other kinds of historical research; the challenges inherent in working with individuals and communities; best practices for designing oral history projects, interviewing subjects, and managing data; and the ethical concerns that surround oral history work. Students will apply their readings in the theory and practice of oral history by conducting a substantial oral history project.

### Prerequisites

A 100- or 200-level HIS course

## HIS400 - Senior Seminar

In this course, students will prepare a substantial piece of original scholarship based on substantial research in primary sources. Through readings, discussions, writing workshops, and individual tutorials, students will discuss how historians develop a research topic, conduct research and evaluate evidence, and apply secondary and theoretical materials to produce analytical,

argumentative scholarship. Research projects may take the form of a traditional research paper of 15-20 pages or a physical or digital exhibit of equivalent substance. The course will culminate with a symposium in which students will publicly present their research. Topics will vary. Offered each fall. HIS 400 may be replaced by an independent study (HIS 500 and/or HIS 501) with departmental approval.

### Prerequisites

HIS 290 and at least two HIS courses at the 300 level

## HIS500, 501 - Independent Study

Students will prepare a substantial piece of original scholarship based on substantial research in primary sources. Working on an individual basis with a faculty member, students will engage in reading, discussion, drafting, and revision to develop a deep understanding of how historians develop a research topic, conduct research and evaluate evidence, and apply secondary and theoretical materials to produce analytical, argumentative scholarship. The course will culminate in a public presentation of the student's research. Topics will be developed based on student interest, in consultation with a faculty member. Independent study projects may take the form of a traditional research paper of at least 15 pages or a physical or digital exhibit of equivalent substance. Students wishing to apply for Honors must complete both HIS 500 and HIS 501. Honors projects may take the form of a graduate-level research paper of at least 35 pages or a physical or digital exhibit of equivalent substance. Students are advised to consult with faculty mentors in the spring prior to their senior year about the feasibility of proposed topics. HIS 500 or 501 replaces HIS 400 and may only be taken with departmental approval and are open to junior and senior history majors and minors who have completed HIS 290.

Offered annually.

### Prerequisites

HIS 290

## HUMAN RESOURCE MANAGEMENT

Classifications: Major Emphasis

**Department Chair:** Lori Galley, Ph.D.

Both the Psychology and Business Administration programs offer an emphasis on Human Resource Management providing an opportunity for students to more specifically explore the management of human capital in organizations. The requirements of each emphasis include completing the requirements of the major, either psychology or business, and the additional requirements of the emphasis as specified by the respective program.

### EMPHASIS IN HUMAN RESOURCE MANAGEMENT REQUIREMENTS - PSYCHOLOGY MAJOR:

In addition to completing the requirements of the psychology major, the following courses: [PSY 295](#); one of [PSY 225](#), [235](#) or [330](#); [ECN 101](#); [BUS 201](#), [319](#) and [350](#). Students interested in the human resource

management emphasis are advised to contact Dr. Bennett of the Department of Psychology.

### EMPHASIS IN HUMAN RESOURCE MANAGEMENT REQUIREMENTS - BUSINESS ADMINISTRATION MAJOR:

In addition to completing the requirements of the business major, the following courses: [BUS 319](#), [BUS 350](#); [PSY 101](#), [102](#), [295](#) and one of the following: [PSY 225](#), [235](#) or [330](#). In satisfying the requirements of the major, [BUS 350](#) substitutes for [BUS 315](#) and [PSY 295](#) substitutes for one of the required 300-level or 400-level elective business (BUS) courses. Students interested in the human resource management emphasis are advised to contact Dr. Litchfield of the Department of Business.

## INTERACTION DESIGN

Classifications: Major Emphasis

**Department Chair:** Amanda Holland-Minkley, Ph.D.

The emphasis on Interaction Design is available to [Computing and Information Studies](#) majors. It highlights the issues involved in designing computing systems in a human-centric manner and focuses on the theories and techniques involved in developing effective interfaces for information systems.

**MAJOR REQUIREMENTS WITH EMPHASIS IN INTERACTION DESIGN:** Students complete the requirements of the CIS major, with one of their electives being [CIS 301](#) and at least two of their remaining electives drawn from [CIS 105](#), [CIS 245](#), [CIS 275](#), or [CIS 375](#). Some offerings of [CIS 297](#) or [CIS 397](#) may also be designated as counting towards the Interactive Design emphasis.

Students with an interest in a particular subfield within computing are encouraged to consider an emphasis on the CIS major. Students may only declare a single emphasis to the CIS major. Majors should work closely with their advisor to select a path or emphasis through the curriculum that best fits their long-term career or graduate study goals.

## INTERDISCIPLINARY COURSES

Classifications: Other

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](#).

## INTERFAITH LEADERSHIP STUDIES

Classifications: Minor

**Steering Committee:** Cynthia Hogan, Ph.D.; Gregg Osborne, Ph.D.; Olga Solovieva, Ph.D.; Todd D. Verdun, Ph.D.

**Program Directors:** Olga Solovieva, Ph.D.

The Interfaith Leadership Studies minor is designed to equip students with knowledge and skills essential for professional and civic leaders in a religiously diverse society. As our national

and global communities become increasingly interconnected and diverse, an ability to work effectively with people with differing religious and cultural worldviews becomes a necessary precondition for success in many professional fields including human services, education, health professions, government, international business, ministry, and law. By combining perspectives from several academic disciplines, the Interfaith Leadership Studies minor helps students obtain a comprehensive knowledge of the social, political, and cultural contexts of diverse religious traditions, and of the significance of interfaith work. Students also receive an opportunity to develop a set of academic, practical, and interpersonal skills conducive to building constructive relationships, mutual respect, and a commitment to the common good across religious and cultural lines.

The minor consists of five courses: four elective courses that must be taken from at least two different disciplines, and a capstone course, [ILS 301: \*Interfaith Leadership in Theory and Practice\*](#) which provides an opportunity to integrate and practically apply knowledge acquired in elective courses. All students must take at least one course from Group I of elective courses, and at least one course from Group II. Courses in Group I introduce students to the aims and significance of interfaith leadership studies through intentional discussions of the importance of interfaith understanding. Courses in Group II allow students to explore specific manifestations and implications of religious diversity and interreligious understanding across multiple disciplines.

Group I: [ENG 226](#), [REL 101](#), [REL 102](#), [REL 104](#), [REL 105](#), [REL 106](#), [REL 307](#)

Group II: [CRS 101](#), [CRS 247](#), [ENG 355](#) (*Holocaust Literature*), [HIS 151](#), [HIS 270](#) (*Religion, Identity, and Politics in Asian History*), [HIS 305](#), [PHL 135](#), [PHL 145](#), [PHL 235](#), [POL 120](#), [POL 232](#), [REL 115](#), [REL 203](#), [REL 204](#), [REL 205](#), [REL 207](#), [REL 208](#), [REL 215](#), [REL 217](#), [REL 237](#), [REL 274](#)

Elective courses may be taken in any order, although some might have prerequisites; [ILS 301](#) (*Interfaith Leadership in Theory and Practice*) must be taken after completing at least two affiliated courses.

For other possible elective courses, including Special Topics and JayTerm courses, contact the program coordinator. With advance approval by the program coordinator, students may complete an internship or independent study as one of their elective courses.

The minor is available to students in any major. Students minoring in Religious Studies may not count more than two of the same courses toward the completion of each course of study.

## ILS301 - Interfaith Leadership in Theory and Practice

This is a capstone course for the Interfaith Leadership Studies minor that is designed to reinforce and synthesize knowledge, perspectives, and skills acquired in the elective courses in the program. On the theoretical side, the course will address such topics as the ongoing changes in the national religious landscape; effects of religious diversity on community relationships and social cohesion; conceptions and significance of religious

pluralism; and principles and historical examples of interfaith cooperation. In addition, it will provide each member of the course with an opportunity to explore interfaith perspectives on particular socio-political, ethical, professional, or existential issue of special interest to students. On the practical side, the course requires students to apply their knowledge to concrete situations and develop their interfaith leadership skills through a variety of experiential learning assignments and projects.

### Prerequisites

Two courses completed as part of the ILS minor or permission of the instructor

## INTERNATIONAL BUSINESS ADMINISTRATION

Classifications: Major Emphasis

**Steering Committee:** Robert Litchfield, Ph.D.

**Program Directors:** Robert Litchfield, Ph.D.

**Department Chair:** Lori Galley, Ph.D.

The Business Administration program of the Department of Business offers an emphasis in International Business providing the opportunity for students completing a major in Business Administration to prepare for roles in international commerce. The requirements of the emphasis include completing the requirements of the Business Administration major, additional course requirements of the emphasis, courses in a foreign language, and a study abroad experience with a study abroad program approved for this emphasis. While administered by the Department of Business, the emphasis is supported by collaboration with the Department of Modern Languages and the Office of Study Abroad.

### EMPHASIS IN INTERNATIONAL BUSINESS REQUIREMENTS - BUSINESS ADMINISTRATION MAJOR:

In addition to completing the requirements of the Business Administration major, the following: [BUS 361](#); a term of study abroad in a program approved for the emphasis; one business course completed as a portion of the study abroad experience; and completion of foreign language courses through the 309 courses in a chosen language. In satisfying the requirements of the major, the required number of 300-level or 400-level elective business (BUS) courses is reduced from two to one, and the business course completed as a portion of the study abroad experience, designated as [BUS 397](#), completes the remaining elective course requirement.

### STUDY ABROAD

The study abroad experience is a vital component of the emphasis in International Business and is provided through programs offered by institutions that are specifically approved for this emphasis. Currently, institutions approved for this program provide opportunities to study in the following countries: Ireland, France, Germany, Spain, Italy, Russia, United Arab Emirates, China, Japan, and Australia. All of the approved programs offer business courses; some of these courses are approved for use in fulfilling the emphasis requirement of one business course completed

as a portion of the study abroad experience. Additionally, some of these institutions offer internship opportunities that may be completed for credit. The Office of Study Abroad coordinates all arrangements for the study abroad experience.

## INTERNATIONAL STUDIES

Classifications: Major

**Steering Committee:** Leslie Dunn, Ph.D.; Zheya Gai, Ph.D.; Buba Misawa, Ph.D.; Katherine Ternes, Ph.D.

**Program Directors:** Buba Misawa, Ph.D.

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.

Four core required courses:

<a href="#">ECN 102</a>	Principles of Macroeconomics
<a href="#">POL 120</a>	World Politics
<a href="#">POL 321</a>	International Law
<a href="#">POL 322</a>	International Political Economy

Two elective courses

Take two from the following list:

<a href="#">ARH 102</a>	World Art II
<a href="#">ECN 325</a>	Economic Development
<a href="#">ENG 260</a>	World Literature

<a href="#">EVS 201</a>	Global Environmental Issues
<a href="#">MUS 101</a>	Introduction to Global Music
<a href="#">POL 220</a>	U.S. Foreign Policy
<a href="#">POL 320</a>	International Politics
<a href="#">POL 331</a>	Politics of Developing Countries
<a href="#">REL 104</a>	World Religions (Non-Christian)

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*

<a href="#">FRN 420</a>	Topics in Francophone Cultures
<a href="#">MUS 241/341*</a>	Global Music Regional Survey
<a href="#">POL 230</a>	Politics of Africa (R)
<a href="#">POL 232</a>	Politics of the Middle East (R)
<a href="#">REL 205</a>	Introduction to Islam
<a href="#">EVS 300</a>	Int Dev Env Sub-Saharan Africa (R)

\*The course will count toward this area of focus when it is taught with a specific emphasis on Africa and/or the Middle East.

### *East Asia*

<a href="#">HIS 151</a>	Asian Heritages (R)
<a href="#">POL 231</a>	Politics of China
<a href="#">POL 250</a>	Special Topic: Political Economy of East Asia (R)
<a href="#">POL 350</a>	Special Topic: East Asia in World Politics (R)
<a href="#">REL 106</a>	Eastern Religious Traditions (R)
<a href="#">SOC 247</a>	Special Topic: Japanese Society

### *Europe*

<a href="#">ARH 352</a>	19th-Century Art
<a href="#">ARH 355</a>	20th-Century Art
<a href="#">FRN 411</a>	Cultural History of France
<a href="#">FRN 420</a>	Topics in French and Francophone Cultures
<a href="#">FRN 457</a>	Topics in French and Francophone Literature
<a href="#">FRN/GER/SPN 371</a>	Business Communication and Culture
<a href="#">GER 235</a>	Two Germanys

<a href="#">GER 289</a>	German Culture Through Film
<a href="#">GER 456</a>	Topics in German Literature
<a href="#">GER 485</a>	Cultural History of Germany
<a href="#">GER 486</a>	Topics in German Culture
<a href="#">POL 330</a>	Comparative Politics (R)
<a href="#">SPN 420</a>	Topics in Hispanic Culture
<a href="#">SPN 422</a>	Spanish Film

### Latin America

<a href="#">HIS 260</a>	Latin American History to Independence (R)
<a href="#">HIS 261</a>	Latin American History from Independence to the Present (R)
<a href="#">POL 250</a>	Mexico and the Caribbean
<a href="#">SPN 420</a>	Topics in Hispanic Culture
<a href="#">SPN 421</a>	Latin American Film

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 six 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.

### Prerequisites

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.

### Prerequisites

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 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

## LATIN AMERICAN STUDIES

Classifications: Minor

**Steering Committee:** Robert East Jr., Ph.D.; H.J. Manzari, Ph.D.; Karin Maresh, Ph.D.; Kathleen McEvoy, Ph.D.; Buba Misawa, Ph.D.; Katherine Ternes, Ph.D.

**Program Directors:** H.J. Manzari, Ph.D.

The Latin American Studies minor is an interdisciplinary course of study in the liberal arts that provides students with an understanding of the many facets of Latin America including its literature and history, society and culture, economics and politics, languages, arts, humanities, and environment. Students are also given the opportunity to study the Latino experience in the United States, and delve into global issues that impact indigenous and ethnically diverse communities of Latin America, i.e., migration, displacement and exile.

**MINOR REQUIREMENTS:** The Latin American Studies minor requires six courses. Students must take two courses in the Spanish language at the 207 level or higher; one course from Group 1 to fulfill a Latin American History component, and three additional courses must be selected from a combination of Group 1 and Group 2 or from Group 2. Students must select courses from

at least two departments with no more than three courses from a single department. Courses may be taken in any order, though some have pre-requisites. The minor is available to students in any major. With the approval of the LAS Coordinator, up to two Latin American-themed JayTerm courses may be counted.

Group 1: [LAS 201](#), [HIS 260](#), [HIS 261](#), [SPN 289](#) or [POL 250](#) (when taught with an emphasis on Latin America)

Group 2: [EVS 315](#), [EVS 300](#), [MUS 241](#), [MUS 341](#), [SPN 371](#), [SPN 311](#), [SPN 420](#), or [SPN 421](#) or the following courses when taught with an emphasis on Latin America: [ENG 255/355](#), [EVS 300](#)

When the following courses are taught with a specific emphasis on Latin America, they may also count as electives toward the minor: [ENG 155](#), [SPN 457](#), [FRN 457](#), [GWS 210](#), [POL 120](#), [POL 220](#), [POL 320](#), [POL 321](#), [POL 322](#), and [POL 331](#).

Students must incorporate a study away experience with a focus on Latin America in consultation with the LAS advisor. Study away may be one of the following: a semester-long study abroad experience; an internship away; a Mazingira project; a short term study away/service learning project or JayTerm trip.

Spanish majors and minors who are interested in an LAS minor may use up to two 200-, 300-, or 400-level SPN courses to count for the minor. In other words, up to two of the six required courses for the minor may be counted toward the Spanish major as well.

## LAS201 - Foundations in Latin American Studies

This course examines Latin American history, culture, and society, as well as the different approaches, methodologies, and concepts related to the study of Latin America. Students will explore the experiences that shaped Latin America as a region, how the region impacts and is impacted by globalization and the experience and role of Latino/in the United States. Students will analyze films, literature, visual art, journalism, historical documents, and conduct social scientific research.

### Prerequisites

None

## LAS257 - Topics in Latin American Studies

An interdisciplinary approach to the study of Latin America. Topics may include such issues as class, gender, and race relations as reflected in the history, politics, society, literature, film, and culture of Latin American nations. The language of instruction is English.

### Prerequisites

None

## MARKETING

Classifications: Major Emphasis, Minor

**Department Chair:** Lori Galley, Ph.D.

The Business Administration program of the Department of Business offers a minor and a major emphasis in Marketing.

The Marketing minor offers an opportunity for students to explore the area of marketing, including consumer behavior, market research and international marketing, in preparation for entry-level marketing positions in business and not-for-profit organizations.

The emphasis in Marketing provides an opportunity for students completing a major in Business Administration to more specifically explore areas such as consumer behavior, market research, and international marketing. The requirements of the emphasis include completing the requirements of the business major and the additional requirements of the emphasis.

**MARKETING MINOR REQUIREMENTS:** [ECN 101](#); [MTH 125](#); [BUS 201](#), [BUS 307](#), [BUS 308](#) and either [BUS 309](#) or [BUS 311](#).

### MARKETING EMPHASIS REQUIREMENTS - BUSINESS ADMINISTRATION MAJOR:

In addition to completing the requirements of the business major, the following courses: [BUS 308](#), [BUS 309](#), and [BUS 311](#). The business (BUS) courses taken to satisfy the requirements of the emphasis may also be used to satisfy the elective courses required by the major.

### NOTES:

**Transfer Credit:** In satisfying the requirements of the emphasis or the minor, the program requires that the following courses be completed at Washington & Jefferson College: [BUS 201](#), [BUS 307](#), [BUS 308](#), [BUS 309](#), and [BUS 311](#). Students may petition the chair of the Department of Business to waive this requirement in special circumstances.

**Restrictions on Combinations of Courses of Study:** Since students majoring in business may complete an optional emphasis in marketing, they may not complete a minor in marketing.

## MATHEMATICAL PHYSICS

Classifications: Major Emphasis

**Department Chair:** Cory Christenson, Ph.D.

As a discipline, physics embraces the “unreasonable effectiveness of mathematics” in describing and understanding the physical world. Physical theories and models are expressed using mathematics, allowing for quantitative predictions that can be compared with experimental data. In many cases from the history of the discipline, mathematical insights have led physicists to propose and discover new ways in which our Universe behaves. In pursuing this major emphasis, students learn the deep mathematical underpinnings of various endeavors in physics, such as probability in quantum mechanics and thermodynamics, variational calculus in classical mechanics, and partial differential equations in electrodynamics. A robust understanding of these foundational mathematical paradigms can be used to solve problems in materials science, cosmology, nuclear science, and medical imaging. Students completing this emphasis will be prepared for graduate school or careers in a wide variety of technical fields.

**MAJOR EMPHASIS IN MATHEMATICAL PHYSICS:** [MTH 151](#), [MTH 152](#), [PHY 101](#) or [PHY 107](#), [PHY 108](#), [PHY 209](#), [PHY 219](#), [PHY 250](#), and these specific requirements for the emphasis: [MTH 170](#)

or [MTH 217](#); [MTH 205](#), [MTH 208](#), [MTH 308](#); [PHY 220](#); plus four 300-level PHY lecture courses. Capstone: [PHY 400](#) focusing on a relevant topic.

## MATHEMATICS

Classifications: Major, Minor

**Faculty:** Faun Doherty, Ph.D.; Walter Elder, M.A.; Ryan Higginbottom, Ph.D.; Jeannette Kline, Ph.D.; John Zimmerman, Ph.D.

**Department Chair:** Faun Doherty, Ph.D.

A careful study of mathematics, through rigorous training in problem-solving, opens doors to a broad array of career opportunities in science and technology-related sectors, as well as areas such as education, business, finance, law, and medicine. The major in mathematics begins with a detailed consideration of calculus, statistics, and linear algebra, leading to upper-division courses in areas such as graph theory, number theory, differential equations, or complex analysis. Students majoring in mathematics will examine in-depth at least one foundational area of theoretical mathematics (abstract algebra or real analysis). The major culminates with an independent inquiry (known as a MathTalk) supervised by a faculty member. The development of communication skills, both written and verbal, is emphasized throughout, as is the social and human nature of the mathematical investigation. By graduation, math majors possess the precise logic, deep thinking, and creative ideas that characterize mathematical thought and contribute to responsible citizenship.

The minor in Mathematics trains students in calculus and linear algebra, provides an initial exposure to both theoretical and applied mathematics, and prepares them for analytical problem solving and future mathematical investigation.

The Department of Mathematics 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 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](#), [205](#), [208](#), [211](#), [217](#), [320](#) (1/2 course), [420](#) (1/2 course), [MTH 412](#) or [MTH 415](#), and at least three additional courses numbered above 300. Substitutions at the upper level may be made only with department approval. Depending on the student's vocational interests, [CIS 220](#) and [PHY 107](#) and [108](#) are recommended, but not required, courses.

**MINOR REQUIREMENTS:** [MTH 151](#) and [152](#); either [MTH 170](#) or [217](#); either [MTH 211](#) or [301](#); one course from [MTH 125](#), [175](#), [205](#), [208](#), [245](#), [305](#), [308](#), [317](#); and one additional course at the

300-level or above.

**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.

**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 coursework are evaluated and may be transferred. Advising is available to ensure a smooth transition to W&J mathematics.

**PREREQUISITE POLICY:** When courses are required as prerequisites for other departmental courses, a grade of C- or better is required to satisfy the prerequisite. Students should recognize that 300- and 400-level mathematics courses assume a certain level of mathematical maturity and general background regardless of the stated prerequisites. The course instructor may be consulted regarding the expectations for specific courses.

**AP POLICY: Calculus AB exam:** Students with AP Calculus score 5 will receive credit for MTH 151. Students with a score of 4 may receive credit for MTH 151, or they may elect to enroll in MTH 151 instead. In such cases, students do not receive course credit for their AP score. Students who elect to receive AP credit for MTH 151 will receive Logical (LOGIC) breadth of study credit. Students who receive AP credit for MTH 151 may not take MTH 131.

**Calculus BC exam:** Students with AP Calculus score 5 may elect to receive credit for MTH 152 OR to enroll in MTH 152 instead. If enrolling in MTH 152, students do not receive course credit for their AP scores. Students who elect to receive AP credit for MTH 152 will receive Logical (LOGIC) breadth of study credit; such students should enroll in MTH 208. If the AP score on the BC exam is less than 5, the AB subscore will be evaluated according to the Calculus AB exam policy above to determine eligibility for credit for MTH 151.

**Statistics exam:** Students with an AP Statistics score of 4 or 5 will receive credit for MTH 125 and Logical (LOGIC) breadth of study credit.

**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.

**PREPARATION FOR ACTUARIAL EXAMS:** Students preparing for the actuarial exams should complete [MTH 151](#), [152](#),

[205](#), [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 the Education minor consisting of those courses required for Secondary Education (grades 7-12) Certification.

Students may seek Grades 4-8 Certification in Mathematics in one of two ways:

Option 1: Complete the [Child Development and Education](#) major and the following Mathematics courses: [MTH 151](#), [MTH 125](#) and one of two tracks: Track A: [MTH 115](#), [MTH 123](#), [MTH 124](#), and one of [MTH 170](#) or [MTH 211](#); Track B: [MTH 152](#), [MTH 208](#), [MTH 211](#), and [MTH 217](#).

Option 2: Complete the Mathematics major, and the Education minor consisting of those courses required for 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.

## MTH101 - Introduction to Applied Mathematics

This course is designed to refresh students on many of the basic mathematical skills required in precalculus, calculus for the business sciences, and statistics. Topics include linear equations and functions, polynomials, rational expressions, quadratic, exponential, and logarithmic functions, as well as introductory topics from probability and statistics. This course is restricted to students whose placement score is under 12.

### Prerequisites

Freshman or sophomore status; available to juniors by permission only; not available to seniors. Placement score 0-11. 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.

### Prerequisites

Placement exam score 12-18

## 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.*

### Prerequisites

None

## 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.

### Prerequisites

EDU 201 (may also be corequisite); 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.

### Prerequisites

EDU 201; this course is not available for freshmen or seniors; offered spring term only; required for child development and education majors

## MTH125 - Introductory 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. Students with credit for MTH 205 or MTH 245 may not subsequently enroll in MTH 125 without forfeiting MTH 205 or MTH 245 credit.

### Prerequisites

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

## 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. Students with credit for MTH 131 may not subsequently enroll in MTH 151 without forfeiting MTH 131 credit.

### Prerequisites

Freshmen must have a placement score of at least 15; non-freshmen must have a placement score of at least 10 or successful completion of MTH 101; 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. Students with credit for MTH 151 may not subsequently enroll in MTH 131 without forfeiting MTH 151 credit. For information on the AP Calculus exams and W&J placement and credit, please consult the AP Policy section of the Mathematics page in the W&J College Catalog.

### Prerequisites

Placement exam score 19-30 or successful completion of MTH 111; course not available to students with MTH 131 credit

## MTH152 - Calculus II

A continuation of Calculus I that features exponential, logarithmic, and inverse trigonometric functions along with additional methods of integration. The course also provides an introduction to sequences, series, Taylor series, power series representation of functions, tests for convergence, and various applications. Time permitting, the calculus of parametric and polar forms are covered.

The department requires a grade of C- or better in MTH 151 before entering MTH 152. For information on the AP Calculus exams and W&J placement and credit, please consult the AP Policy section of the Mathematics page in the W&J College Catalog.

### Prerequisites

MTH 151

## MTH170 - Applied Linear Algebra

This course introduces students to the computational techniques, concepts, and applications of linear algebra. Topics in this course will include vectors, systems of linear equations, matrices, linear transformations, eigenvalues and eigenvectors, and orthogonality. Several applications will also be covered such as allocation of resources, network analysis, Markov chains, and codes. Students with credit for MTH 217 may not subsequently enroll in MTH 170 without forfeiting MTH 217 credit.

### Prerequisites

MTH 151

## MTH175 - Introduction to Mathematical Modeling

An introduction to the role of mathematics as a modeling tool. This course is intended for freshman and sophomore level students who have had calculus and want to explore mathematical tools to model real-world problems from the natural and social sciences. Applications will be chosen to illustrate various modeling paradigms such as deterministic, probabilistic, discrete, and continuous modeling and may include examples from population dynamics, biomedical applications, physics, political science, and economics. This course integrates much of undergraduate mathematics in an applied setting and is designed to inspire interest in further mathematics courses.

### Prerequisites

MTH 151 or high school calculus and 21 on math placement exam

## MTH190 - Topics in Introductory Mathematics

A narrowly defined, introductory study of an area of mathematics not covered through regular departmental course offerings. Sample topics are introduction to game theory, finite mathematics, laboratory calculus, introduction to mathematical reasoning, and matrix algebra.

### Prerequisites

Dependent upon topic

## MTH205 - Probability and Statistics

A calculus-based introduction to probability and statistics. Topics include data collection techniques, counting techniques, sample spaces and probability, discrete random variables, continuous random variables, confidence intervals and hypothesis testing, linear regression, and simulation. Students will use computer software to process and analyze data. Students with credit for MTH 125 or MTH 245 may not subsequently enroll in MTH 205 without forfeiting MTH 125 or MTH 245 credit.

*Offered: Fall Term*

### Prerequisites

MTH 151

## 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 when time permits, Green's theorem.

### Prerequisites

MTH 152

## **MTH211 - Foundations of Higher Mathematics** **MTH301 - Geometry and History of Mathematics**

An introduction to the foundational concepts of higher mathematics. Topics will include basic logic, the algebra of sets, proof techniques (including mathematical induction), relations, functions, and set cardinality. Students will learn how to understand, structure, and write mathematical arguments.

### **Prerequisites**

MTH 152

## **MTH217 - Linear Algebra**

Fundamental properties and applications of matrices and linear transformations, including systems of equations, vector spaces, determinants, and characteristic values. Students with credit for MTH 170 may not subsequently enroll in MTH 217 without forfeiting MTH 170 credit.

*Offered Spring Term*

### **Prerequisites**

MTH 211

## **MTH245 - 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 BIO 245.

*Offered: Spring Term*

*Course is not available to first-year students.*

### **Prerequisites**

BIO 111 or BIO 121 or BIO 131 or PSY 101 (with a grade of C- or better)

## **MTH290 - Topics in Intermediate Mathematics**

A narrowly defined, intermediate study of an area of mathematics not covered through regular departmental course offerings. Sample topics are mathematical modeling, introductory discrete mathematics, introductory geometry, financial mathematics, and introduction to mathematical biology.

### **Prerequisites**

Dependent on the topic

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 odd-numbered years*

### **Prerequisites**

MTH 152 required and MTH 211 recommended

## **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 fall term*

### **Prerequisites**

MTH 205 required; MTH 208 recommended

## **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*

### **Prerequisites**

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.

*Offered spring term of odd-numbered years*

### **Prerequisites**

MTH 211

### 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.

*Offered spring term of even-numbered years*

#### Prerequisites

MTH 208

### MTH320 - Junior MathTalk

(2-credit 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 presentation will be evaluated by the instructor with possible input from other full-time mathematics faculty members to determine the student's grade in the course. Students will be supervised in the creation of the report and presentation.

#### Prerequisites

MTH 217

### MTH330 - Intro to Graph Theory

An introduction to graph theory. Topics can include applications, basic algorithms, degrees and counting, trees, directed graphs, connectivity, matchings, vertex and edge covers, domination. Proof writing is expected.

#### Prerequisites

MTH 211

### MTH361 - Combinatorics

This course involves the study of finite mathematical objects, including their enumeration, structural properties, and applications to areas such as probability, statistics, and computer science. Topics include fundamental counting problems and combinatorial functions such as factorials, binomial coefficients, and Catalan numbers, enumeration methods such as inclusion/exclusion and generating functions, structure theory of important combinatorial objects such as partitions and permutations, and classical combinatorial theorems such as the pigeonhole principle and the Polya enumeration theorem.

*Offered: Fall Term of even-numbered years*

#### Prerequisites

MTH 211

### 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.

#### Prerequisites

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 and 217

### MTH412 - Algebraic Structures

An introduction to the study of abstract algebraic structures. Topics will include groups, subgroups, cyclic groups, groups of permutations, homomorphisms, factor groups, rings, integral domains, ideals, and fields.

*Offered fall term of odd-numbered years*

#### Prerequisites

MTH 217 plus at least one 300-level math course

### MTH415 - Real Analysis

This course provides a rigorous treatment of the calculus concepts of limits, continuity, sequences, differentiation, and integration. It includes the axioms for the real number system, basic topological properties of  $\mathbb{R}$ , and proofs of the classical theorems of calculus.

*Offered fall term of even-numbered years*

#### Prerequisites

MTH 217 plus at least one 300-level math course

### MTH420 - Senior MathTalk

(2-credit 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 presentation will be evaluated by the instructor with possible input from other full-time mathematics faculty members to determine the student's grade in the course. Students will be supervised in the creation of the report and presentation.

#### Prerequisites

Permission of the Mathematics Department

## MTH490 - Topics in Advanced 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.

### Prerequisites

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 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

None

## MEDIA STUDIES

Classifications: Major Emphasis

**Department Chair:** Karin Maresh, Ph.D.

The emphasis in Media Studies is available to [Communication Arts](#) majors. It aims to prepare students to ask and answer questions about film as artistic expression. How do technical, social, and historical constraints shape cinematic storytelling practices? How does a specific film invite a particular interpretation for a certain audience in a given time and culture? How do the interactions of a filmmaking collaborative (writers, directors, technicians, performers, editors, and others) create meanings for audiences?

**COMMUNICATION ARTS MAJOR WITH A MEDIA STUDIES EMPHASIS REQUIREMENTS:** A communication arts major with an emphasis in media studies requires 10 courses total. [COM 101](#); [COM 102](#); [COM 103](#); [COM 221](#); [COM 230](#); [COM 261](#) or [CIS 265](#); [COM 301](#); [COM 345](#); [COM 321](#) or [COM 361](#); and [COM 401](#).

The Department of Communication Arts offers credit and non-credit opportunities for creative expression to all W&J students. One-credit practicums in theatre ([COM 252](#)) and radio ([COM 242](#)) are available each semester, and each course may be taken up to

four times.

The department stages a theatrical production each semester, with auditions held early in the term. Auditions are open to all W&J students. For more information about getting involved with theatre productions, contact the department chair or join the W&J Student Theatre Company.

Participation in the WNJR radio station is also available to all W&J students. After a meeting with Dr. Nick Maradin (WNJR General Manager) and completion of brief written and hands-on tests, a student can host a radio show either alone or with a co-host. For more information about WNJR visit [wnjr.org](http://wnjr.org) and contact Dr. Maradin.

## MIND AND LANGUAGE

Classifications: Minor

**Steering Committee:** Judith Atzler, Ph.D.; Jennifer Harding, Ph.D.; Hanna Kim, Ph.D.; Michael Wolf, Ph.D.

The Mind and Language Program offers an interdisciplinary examination of language and mind through a combination of courses in several disciplines. Students may pursue a six-course minor that combines required courses in foundational topics with elective courses in affiliated departments.

The program seeks to prepare students for a successful career after college in various settings (graduate school, professional school, or the business world). It provides especially helpful preparation for students who wish to pursue graduate degrees in English, Philosophy, or Linguistics, as well as other interdisciplinary programs involving language and mind study.

**MINOR REQUIREMENTS:** The Mind and Language minor is a six-course minor. [LAN 200: Linguistics](#), [PHL 123: Introduction to Logic](#), and [PHL 242: Philosophy of Mind](#) are required courses. The remaining three courses are chosen from the program-approved list below. It is highly recommended that students take affiliated courses in three different departments. At least one of the three selected courses must be from the 300-level or above.

The foreign language studied to complete graduation requirements provides helpful background for this minor. Additional language study is not required, but it is recommended that students take additional courses in a foreign language, especially if they are interested in graduate school in Linguistics or English, since studying a foreign language facilitates comparing English to at least one other language and is required for many graduate programs.

Elective Courses: [ENG 202](#) (some sections), [ENG 228](#), [ENG 302](#), [ENG 500](#), [FRN 500](#), [GER 500](#), [LAN 347](#), [LAN 500](#), [PHL 222](#), [PHL 343](#), [PHL 370](#) (some sections), [PHL 500](#), [RUS 500](#), [SPN 500](#). Topics courses and independent study courses must be approved in advance by the program director, with the exception of LAN 347, which always counts as an elective course for the minor.

## MODERN LANGUAGES

Classifications: Other

**Department Chair:** Katherine Ternes, Ph.D.

The department offers majors in [French](#), [German](#), and [Spanish](#); minors in [Chinese](#), [French](#), [German](#), [Spanish](#), and [Russian Studies](#); a program of 100- and 200-level courses in [Arabic](#); and courses in linguistics, [LAN 200](#) and [LAN 347](#).

Students enrolled in a language that offers only a minor (the Chinese program currently only offers a minor), and who started at W&J at the 309/310-level, can petition the Chair of Modern Languages for approval of fulfillment of the minor upon completion of four advanced-level courses. A maximum of two advanced-level courses may be transferred into W&J, per approval of the program coordinator, from other institutions, to count towards this minor. Students could **either** take credit-bearing courses from an institution in a country where the target language is spoken (in this case China), **or** from an institution from any country (including the U.S.) that offers the required advanced-level courses.

The mission of the Department of Modern Languages is to impart to all W&J students the skills, knowledge, and qualities necessary to communicate and interact in culturally appropriate ways with speakers of languages other than their own. The Department of Modern Languages is, therefore, a key component of a liberal arts education and serves the mission of the College by preparing students to become observant, responsive, and knowledgeable actors in our increasingly multicultural and global society.

All students who take courses in the Department of Modern Languages develop a greater understanding of the world and its people. Through the study of languages, literature, and cultures of the world, W&J students will develop the linguistic and cultural competencies necessary to become active and compassionate global citizens.

## LAN200 - Introduction to Linguistics

Designed to introduce students to the formal and functional study of language, this course will provide a background in several core areas of linguistics: phonetics and phonology (sound structure and patterns), morphology (word structure), syntax (sentence structure), and semantics (word meaning). In addition, students will examine language variation and change, language contact, language and culture, and topics in sociolinguistics (language and gender, language varieties associated with specific ethnic and socio-economic identities). This course is taught in English, but students will use and analyze datasets from many different languages in order to compare linguistic features.

### Prerequisites

None

## LAN347 - Topics in Linguistics

Building on analytical skills learned in LAN 200: "Introduction to Linguistics," this course explores a specific topic in linguistics such as phonetics, phonology, morphology, syntax, semantics, typology, language acquisition, or historical linguistics. Students will analyze current and seminal literature on this special topic

and engage in original research as well as real-life applications of linguistic concepts. Topic varies from year to year.

### Prerequisites

LAN 200 or approval of the instructor

## LAN500, 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 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

None

## MUSIC

Classifications: Major, Minor

**Faculty:** Clint Bleil; Susan Medley, D.M.A.; Anousua Mukherjee, Ph.D.; Mark Swift, Ph.D.

**Department Chair:** Anousua Mukherjee, Ph.D.

Music courses are open to all students, most without prerequisites. The department offers a variety of enrichment courses valuable to 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 13 courses, including [MUS 101](#), [110](#), [205](#), [206](#), [306](#); one course from [MUS 311](#), [312](#), [313](#), [315](#); three courses from [MUS 221/321](#), [225/325](#), [241/341](#), [245/345](#), [251/351](#), [261/361](#), [270/370](#), [281/381](#), [282/382](#), at least two of those at the 300-level; [MUS 401](#) with successful presentation of the senior music capstone project; four semesters of the same W&J ensemble chosen from [MUA 101](#), [111](#), [201](#), [211](#), [221](#); and the equivalent of two full courses (8 credits) in any combination of 1/2-courses (2 credit) or 1/4-courses (1 credit) of applied study in a

single area (voice or instrument):

**1 credit options**

MUA [021](#), [022](#), [031](#), [041](#), [042](#), [043](#), [044](#), [045](#), [051](#), [052](#), [053](#), [054](#), [061](#), [062](#), [063](#), [064](#), [065](#), [071](#), [072](#).

**2 credit options**

MUA [121](#), [122](#), [131](#), [141](#), [142](#), [143](#), [144](#), [145](#), [151](#), [152](#), [153](#), [154](#), [161](#), [162](#), [163](#), [164](#), [165](#), [171](#), [172](#)

The Music major is a strong generalist degree that provides a substantial education in music while allowing the flexibility to also pursue a double major.

**MAJOR REQUIREMENTS WITH EMPHASIS IN LITERATURE & THEORY:**

A minimum of 14 courses, including [MUS 101](#), [110](#), [205](#), [206](#), [306](#); two courses from [MUS 311](#), [312](#), [313](#); three courses from [MUS 215/315](#), [221/321](#), [225/325](#), [241/341](#), [251/351](#), [261/361](#), [270/370](#), [281/381](#), [282/382](#), two of which should be at the 300-level; two semesters of [MUA 307](#) or a [MUS 501](#) independent study in Form and Analysis; [MUS 401](#) with successful presentation of the senior music capstone project; four semesters of the same W&J ensemble chosen from [MUA 101](#), [111](#), [201](#), [211](#), [221](#); and the equivalent of one full course (4 credits) in any combination of 1/2-courses (2 credit) or 1/4-courses (1 credit) of applied study in a single area (voice or instrument):

**1 credit options**

MUA [021](#), [022](#), [031](#), [041](#), [042](#), [043](#), [044](#), [045](#), [051](#), [052](#), [053](#), [054](#), [061](#), [062](#), [063](#), [064](#), [065](#), [071](#), [072](#).

**2 credit options**

MUA [121](#), [122](#), [131](#), [141](#), [142](#), [143](#), [144](#), [145](#), [151](#), [152](#), [153](#), [154](#), [161](#), [162](#), [163](#), [164](#), [165](#), [171](#), [172](#)

The emphasis in Literature and Theory is suited for students who intend to pursue graduate study in music.

**MAJOR REQUIREMENTS WITH EMPHASIS IN PERFORMANCE:**

A minimum of 13 courses, including [MUS 101](#), [110](#), [205](#), [206](#), [370](#); one course from [MUS 311](#), [312](#), [313](#), [315](#); two courses from [MUS 221/321](#), [241/341](#), [251/351](#), [261/361](#), at least one at the 300-level; [MUS 401](#) with a recital capstone; four semesters of the same W&J ensemble chosen from [MUA 101](#), [111](#), [201](#), [211](#), [221](#); and the equivalent of three full courses (12 credits) in any combination of 1/2-courses (2 credit) or 1/4-courses (1 credit) of applied study in a single area (voice or instrument):

**1 credit options**

MUA [021](#), [022](#), [031](#), [041](#), [042](#), [043](#), [044](#), [045](#), [051](#), [052](#), [053](#), [054](#), [061](#), [062](#), [063](#), [064](#), [065](#), [071](#), [072](#).

**2 credit options**

MUA [121](#), [122](#), [131](#), [141](#), [142](#), [143](#), [144](#), [145](#), [151](#), [152](#), [153](#), [154](#), [161](#), [162](#), [163](#), [164](#), [165](#), [171](#), [172](#)

A junior half recital is strongly recommended. The emphasis in Performance is suited to students who wish to focus primarily on applied music study and performance supplemented by courses in

music theory and music history.

**MAJOR REQUIREMENTS WITH EMPHASIS IN MEDIA:** A minimum of 12.25 courses, including [MUS 101](#), [110](#), [205](#), [206](#), [381](#), [382](#); one course from [MUS 311](#), [312](#), [313](#), [315](#); two courses from [MUS 221/321](#), [225/325](#), [241/341](#), [245/345](#), [251/351](#), [261/361](#), one of which should be at the 300-level; one-course from [CIS 271](#) or [COM 261](#); [MUS 401](#) with successful presentation of the senior music capstone project; four semesters in one of the following configurations: a) one-semester of [MUA 101](#), [111](#), [201](#), [211](#) or [221](#), two semesters of [COM 242](#), and one-semester of [MUA 307](#); b) two semesters of [MUA 101,111](#), [201](#), [211](#) or [221](#), one-semester of [COM 242](#), and one-semester of [MUA 307](#). There are many career paths that combine music and various media, such as film, video games, radio, and web-related digital music. This emphasis in Media is suited to students who wish to pursue a career in one of these areas.

**MINOR REQUIREMENTS:** A minimum of five or six courses.<sup>†</sup> Students pursuing the minor craft a course of study that leads to a coherent and focused outcome, such as complementing an existing major or balancing a “professional” area of study with music as an enriching avocation. Upon declaration of the minor, the student must designate a Music Department faculty member as an advisor for their minor. They should submit a plan to their minor advisor that includes the goals of their minor, a written rationale for the courses chosen, and three appropriate student learning outcomes. The plan will be reviewed each semester with their minor advisor and adjusted, as necessary. Requirements include [MUS 204](#)<sup>†</sup>; two of the following three courses: [MUS 101](#), [MUS 110](#), [MUS 205](#); and three additional courses (12 credits), or the equivalent of partial course credits, from the department’s MUA courses or MUS courses numbered 211 and above. If private lessons are included, only two 000-level courses (or 2 credits) may count towards the minor; all other private lessons must be taken at the 100-level.

<sup>†</sup>A sixth course may be unnecessary if a student is eligible to place out of MUS 204. To avoid having to take MUS 204, the student must earn a grade of 80% or higher on a placement exam for MUS 205.

**AP Policy:** Students scoring 4 or 5 on the Music Theory AP exam receive credit for MUS 204 and are eligible to test out of MUS 205. 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 1/2-hour or one-hour weekly lesson. For

private instruction, there is a per-term applied lesson fee.

### **MUA021 - Applied Piano**

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's final lesson, in a studio class, or after the term is over, at the instructor's discretion.

#### **Prerequisites**

None

### **MUA022 - Applied Organ**

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's final lesson, in a studio class, or after the term is over, at the instructor's discretion.

#### **Prerequisites**

None

### **MUA031 - Applied Voice**

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's final lesson, in a studio class, or after the term is over, at the instructor's discretion.

#### **Prerequisites**

None

### **MUA041 - Applied Saxophone**

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's final lesson, in a studio class, or after the term is over, at the instructor's discretion.

#### **Prerequisites**

None

### **MUA042 - Applied Flute**

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's final lesson, in a studio class, or after the term is over, at the instructor's discretion.

#### **Prerequisites**

None

### **MUA043 - Applied Clarinet**

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's final lesson, in a studio class, or after the term is over, at the instructor's discretion.

#### **Prerequisites**

None

### **MUA044 - Applied Oboe**

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's final lesson, in a studio class, or after the term is over, at the instructor's discretion.

### Prerequisites

None

### MUA045 - Applied Bassoon

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's final lesson, in a studio class, or after the term is over, at the instructor's discretion.

### Prerequisites

None

### MUA051 - Applied Trumpet

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's final lesson, in a studio class, or after the term is over, at the instructor's discretion.

### Prerequisites

None

### MUA052 - Applied Trombone

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester,

usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's final lesson, in a studio class, or after the term is over, at the instructor's discretion.

### Prerequisites

None

### MUA053 - Applied Euphonium/Tuba

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's final lesson, in a studio class, or after the term is over, at the instructor's discretion.

### Prerequisites

None

### MUA054 - Applied French Horn

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's final lesson, in a studio class, or after the term is over, at the instructor's discretion.

### Prerequisites

None

### MUA061 - Applied Violin

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's

final lesson, in a studio class, or after the term is over, at the instructor's discretion.

### Prerequisites

None

### MUA062 - Applied Viola

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's final lesson, in a studio class, or after the term is over, at the instructor's discretion.

### Prerequisites

None

### MUA063 - Applied Cello

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's final lesson, in a studio class, or after the term is over, at the instructor's discretion.

### Prerequisites

None

### MUA064 - Applied String Bass

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's final lesson, in a studio class, or after the term is over, at the instructor's discretion.

### Prerequisites

None

### MUA065 - Applied Guitar

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's final lesson, in a studio class, or after the term is over, at the instructor's discretion.

### Prerequisites

None

### MUA071 - Applied Concert Percussion

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's final lesson, in a studio class, or after the term is over, at the instructor's discretion.

### Prerequisites

None

### MUA072 - Applied Percussion: Drum Set

Private Instruction Course (1/4 course, 1 credit, 1/2-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for one-hour lessons (MUA 121-172), which are heard by multiple members of the department faculty, juries for 1/2-hour lessons are heard only by the instructor, and are held during the student's final lesson, in a studio class, or after the term is over, at the instructor's discretion.

### Prerequisites

None

## **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.

### **Prerequisites**

None

## **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.

### **Prerequisites**

None

## **MUA121 - Applied Piano**

Private Instruction Course (1/2 course, 2 credit, one-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for 1/2-hour lessons (MUA 021-072), which are held at the instructor's discretion, juries for one-hour lessons are heard by multiple members of the department faculty during the exam period. An end-of-term Student Recognition Recital offers an optional public performance opportunity to those taking private music instruction at the 100-level.

### **Prerequisites**

None

## **MUA122 - Applied Organ**

Private Instruction Course (1/2 course, 2 credit, one-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for 1/2-hour lessons (MUA 021-072), which are held at the instructor's discretion, juries for one-hour lessons are heard by multiple members of the department faculty during the exam

period. An end-of-term Student Recognition Recital offers an optional public performance opportunity to those taking private music instruction at the 100-level.

### **Prerequisites**

None

## **MUA131 - Applied Voice**

Private Instruction Course (1/2 course, 2 credit, one-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for 1/2-hour lessons (MUA 021-072), which are held at the instructor's discretion, juries for one-hour lessons are heard by multiple members of the department faculty during the exam period. An end-of-term Student Recognition Recital offers an optional public performance opportunity to those taking private music instruction at the 100-level.

### **Prerequisites**

None

## **MUA141 - Applied Saxophone**

Private Instruction Course (1/2 course, 2 credit, one-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for 1/2-hour lessons (MUA 021-072), which are held at the instructor's discretion, juries for one-hour lessons are heard by multiple members of the department faculty during the exam period. An end-of-term Student Recognition Recital offers an optional public performance opportunity to those taking private music instruction at the 100-level.

### **Prerequisites**

None

## **MUA142 - Applied Flute**

Private Instruction Course (1/2 course, 2 credit, one-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for 1/2-hour lessons (MUA 021-072), which are held at the instructor's discretion, juries for one-hour lessons are heard by multiple members of the department faculty during the exam period. An end-of-term Student Recognition Recital offers an

optional public performance opportunity to those taking private music instruction at the 100-level.

### Prerequisites

None

## MUA143 - Applied Clarinet

Private Instruction Course (1/2 course, 2 credit, one-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for 1/2-hour lessons (MUA 021-072), which are held at the instructor's discretion, juries for one-hour lessons are heard by multiple members of the department faculty during the exam period. An end-of-term Student Recognition Recital offers an optional public performance opportunity to those taking private music instruction at the 100-level.

### Prerequisites

None

## MUA144 - Applied Oboe

Private Instruction Course (1/2 course, 2 credit, one-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for 1/2-hour lessons (MUA 021-072), which are held at the instructor's discretion, juries for one-hour lessons are heard by multiple members of the department faculty during the exam period. An end-of-term Student Recognition Recital offers an optional public performance opportunity to those taking private music instruction at the 100-level.

### Prerequisites

None

## MUA145 - Applied Bassoon

Private Instruction Course (1/2 course, 2 credit, one-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for 1/2-hour lessons (MUA 021-072), which are held at the instructor's discretion, juries for one-hour lessons are heard by multiple members of the department faculty during the exam period. An end-of-term Student Recognition Recital offers an

optional public performance opportunity to those taking private music instruction at the 100-level.

### Prerequisites

None

## MUA151 - Applied Trumpet

Private Instruction Course (1/2 course, 2 credit, one-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for 1/2-hour lessons (MUA 021-072), which are held at the instructor's discretion, juries for one-hour lessons are heard by multiple members of the department faculty during the exam period. An end-of-term Student Recognition Recital offers an optional public performance opportunity to those taking private music instruction at the 100-level.

### Prerequisites

None

## MUA152 - Applied Trombone

Private Instruction Course (1/2 course, 2 credit, one-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for 1/2-hour lessons (MUA 021-072), which are held at the instructor's discretion, juries for one-hour lessons are heard by multiple members of the department faculty during the exam period. An end-of-term Student Recognition Recital offers an optional public performance opportunity to those taking private music instruction at the 100-level.

### Prerequisites

None

## MUA153 - Applied Euphonium/Tuba

Private Instruction Course (1/2 course, 2 credit, one-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for 1/2-hour lessons (MUA 021-072), which are held at the instructor's discretion, juries for one-hour lessons are heard by multiple members of the department faculty during the exam period. An end-of-term Student Recognition Recital offers an

optional public performance opportunity to those taking private music instruction at the 100-level.

### Prerequisites

None

### MUA154 - Applied French Horn

Private Instruction Course (1/2 course, 2 credit, one-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for 1/2-hour lessons (MUA 021-072), which are held at the instructor's discretion, juries for one-hour lessons are heard by multiple members of the department faculty during the exam period. An end-of-term Student Recognition Recital offers an optional public performance opportunity to those taking private music instruction at the 100-level.

### Prerequisites

None

### 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.

### Prerequisites

None

### MUA162 - Applied Viola

Private Instruction Course (1/2 course, 2 credit, one-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for 1/2-hour lessons (MUA 021-072), which are held at the instructor's discretion, juries for one-hour lessons are heard by multiple members of the department faculty during the exam period. An end-of-term Student Recognition Recital offers an optional public performance opportunity to those taking private music instruction at the 100-level.

### Prerequisites

None

### MUA163 - Applied Cello

Private Instruction Course (1/2 course, 2 credit, one-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for 1/2-hour lessons (MUA 021-072), which are held at the instructor's discretion, juries for one-hour lessons are heard by multiple members of the department faculty during the exam period. An end-of-term Student Recognition Recital offers an optional public performance opportunity to those taking private music instruction at the 100-level.

### Prerequisites

None

### MUA164 - Applied String Bass

Private Instruction Course (1/2 course, 2 credit, one-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for 1/2-hour lessons (MUA 021-072), which are held at the instructor's discretion, juries for one-hour lessons are heard by multiple members of the department faculty during the exam period. An end-of-term Student Recognition Recital offers an optional public performance opportunity to those taking private music instruction at the 100-level.

### Prerequisites

None

### MUA165 - Applied Guitar

Private Instruction Course (1/2 course, 2 credit, one-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for 1/2-hour lessons (MUA 021-072), which are held at the instructor's discretion, juries for one-hour lessons are heard by multiple members of the department faculty during the exam period. An end-of-term Student Recognition Recital offers an optional public performance opportunity to those taking private music instruction at the 100-level.

## Prerequisites

None

### MUA171 - Applied Concert Percussion

Private Instruction Course (1/2 course, 2 credit, one-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for 1/2-hour lessons (MUA 021-072), which are held at the instructor's discretion, juries for one-hour lessons are heard by multiple members of the department faculty during the exam period. An end-of-term Student Recognition Recital offers an optional public performance opportunity to those taking private music instruction at the 100-level.

## Prerequisites

None

### MUA172 - Applied Drum Set

Private Instruction Course (1/2 course, 2 credit, one-hour lesson weekly for 12 weeks). 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. An end-of-term "exam" (called a "jury" in music) is a demonstration of what you have learned over the semester, usually including the performance of a short piece. Unlike juries for 1/2-hour lessons (MUA 021-072), which are held at the instructor's discretion, juries for one-hour lessons are heard by multiple members of the department faculty during the exam period. An end-of-term Student Recognition Recital offers an optional public performance opportunity to those taking private music instruction at the 100-level.

## Prerequisites

None

### MUA175 - Marimba Ensemble

The American-Zimbabwean marimba ensemble is an offshoot of Zimbabwean marimba and traditional ethnic Shona *mbira* music. It is joyous, upbeat, and accessible to both musicians and non-musicians alike. In this course, students will learn a set of pieces by rote that will become part of a core permanent repertoire for the ensemble to perform by memory semester after semester. Unlike other ensembles where students specialize in one part or instrument and learn a completely new set of pieces each semester to perform in concert, this ensemble is a "gigging" ensemble, designed to play by invitation at different events and occasions with students taking turns on all the instruments. Students exiting the course will have a basic understanding of rhythm, melody, and how to work as a team in a musical ensemble. The course will culminate with a short performance for the campus community.

## Prerequisites

None

### MUA181 - Applied Rock Band

Applied Rock Band is an opportunity to be coached in group performance skills and individual instrumental or vocal technique necessary to perform popular music. A minimum of three students is required to form a rock band, with a maximum of five, and an interview/audition with the instructor is required before enrolling. Each participant must perform a distinct role within the group, for example, vocal, lead instrumental, rhythm. Many combinations are possible, and the group should be prepared to discuss their ideas with the instructor during the pre-registration interview/audition. This course does not count towards ensemble requirements for the music major and minor. Students must have their own instruments (other than drums), but may use W&J drum set, amplification equipment and facilities when enrolled in this course. This course carries a fee per student enrolled.

## Prerequisites

None

### 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.

## Prerequisites

None

### 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.

## Prerequisites

None

### MUA221 - 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 repertoire. Special attention is given to ensemble techniques and stylistic concerns of the selected repertoire. 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.*

### Prerequisites

None

## MUA307 - Composition

This course provides students with practical and technical training in composition, starting at a beginner's level. The course may be repeated for more advanced training. Students will work independently, but meet as a group weekly for instruction and feedback on applying the tools learned in the Music Theory course sequence to the craft of composition. Along with close analysis of scores, students will especially learn about the idiomatic use of timbre, texture, notation, instrument techniques and ranges, composing in pre-established forms such as song forms, theme and variation, and programmatic through-composition. When appropriate for the student's level, the course will include arranging for established settings, such as string quartet, piano trio, wind ensemble, four-part choir, etc. Each semester culminates with a final composition project approximately 5 minutes in length. Students are recommended to have a basic knowledge of Sibelius music notation software, as this will be the program in which all work will be turned in.

### Prerequisites

None

## MUS101 - Intro Global Music Listening

Open to all students without prerequisite. This course focuses on the global expression of music,, addressing art, folk, and popular music styles. , Its organizing principles are the elements of, music itself: melody, rhythm, harmony, timbre,, texture, and structure. All music is treated as, intrinsically valid and valuable, and issues of, cultural and diversity are central. Because, music in culture can never be understood in, isolation, related ideas such as belief systems,, modes of communication and transmission, and, musical instrument design are also important to, the study.

### Prerequisites

None

## MUS110 - Survey of Western Music History

Open to all students without prerequisite. This course surveys the historical evolution of art music from its early days in the Roman Catholic Church, through the Renaissance, Baroque, Classical, Romantic, Modern, and Post-Modern periods. It focuses on selected composers and their music, viewed through cultural, historical, and national lenses. Although some music terminology is addressed, music reading skills are not necessary to do well in this class. Emphasis is on the distinguishing aural characteristics of music from various eras, composers, and genres.

### Prerequisites

None

## 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.

*Does not count toward music major*

### Prerequisites

None

## 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 labMUS 204 or placement exam; 205 is prerequisite to 206*

### Prerequisites

MUS 204 or placement exam; 205 is prerequisite to 206

## MUS211/311 - Music in the Baroque and Classical Styles

This course provides an overview of the seminal composers and classical music repertory of the Baroque and Classical periods. Select musical works will be approached from various historical stances that trace the development of musical form, genre, style and technique from the middle of the seventeenth century to the end of the eighteenth century.

Students will study the work of notable composers and thinkers such as Monteverdi, Bach, Vivaldi, Handel, and the Viennese School of Haydn, Mozart and Beethoven. Class lectures, discussions and readings will further examine the relationship of music to the sociocultural environment in which it was created. This course proceeds chronologically and thematically, taking care to address those pivotal moments in music that parallel important artistic and intellectual trends in history.

MUS 311 is not open to students who have taken MUS 211.

### Prerequisites

No prerequisites for enrollment in MUS 211; MUS 101 and MUS 110 are required for enrollment in MUS 311

## **MUS212/312 - Music in the Age of Romanticism**

This course provides an overview of the seminal composers and classical music repertory of the Romantic era. Musical works will be approached from various historical stances that trace the development of nineteenth-century genres of absolute and programmatic music, including the symphony, opera, chamber music, and art song.

Students will examine the relationship between music and society, focusing on the effects of the Industrial Revolution, the impact of nationalism, and the influences of salon culture and literary critics who championed the aesthetic development of a Romantic style. Connections with the visual arts and architecture of the Romantic era will also be considered.

MUS 312 is not open to students who have taken MUS 212.

### **Prerequisites**

No prerequisites for enrollment in MUS 212; MUS 101 and MUS 110 are required for enrollment in MUS 312

## **MUS213/313 - Music of the Modern and Post-Modern Era**

This course surveys classical music developed in Europe and in the United States during the twentieth and twenty-first centuries. The class begins by untangling the confusing, and often conflicting, terminology associated with "modernism" and "post-modernism." It then explores these concepts in practice by addressing the conceptual, stylistic, and geographical shifts that have influenced western classical music. This course concludes with a discussion about the future of classical music.

In this course, students will study the movements and stylistic schools of nationalism, neo-classicism, twelve-tone music, serialism and experimental music. They will also learn about contemporary practices such as minimalism, computer music, and even the work of our own active college composers. Over the course of the semester, students will be exposed to the music of composers such as Debussy, Ravel, Mahler, Copland, Cage, and members of the Second Viennese School.

MUS 313 is not open to students who have taken MUS 213.

### **Prerequisites**

No prerequisites for enrollment in MUS 213; MUS 101 and MUS 110 are required for enrollment in MUS 313

## **MUS221/321 - Popular Music**

Why has popular music had such an enduring hold on the public imagination? This course looks at the creators and consumers of popular music from the late nineteenth century to the present day. Students will learn about various subcultures, historical contexts and popular music genres, such as Tin Pan Alley, jazz, American musical theater, Latin American dance music, Motown, rock, country, and the fragmented subgenres of electronic dance music (EDM).

Readings will address the relationship between music and dance, music and marginalized minority groups, the cult of the

disco diva, and DJ culture. This course will focus on the social implications of popular music: the symbiotic connection to urban communities, the complex gender and racial politics at play, the anti-establishment attitudes and later issues related to commercial success. Students will also develop their listening abilities and learn to think critically about various musical practices and relevant aesthetic theories.

MUS 321 is not open to students who have taken MUS 221.

### **Prerequisites**

No prerequisites for enrollment in MUS 221; MUS 101 is required for enrollment in MUS 321

## **MUS225/325 - Topics in Popular Music**

The course is an in-depth study of an area of popular music chosen from topics varying from year to year. Possible topics may include rock and roll, Afropop, folk music, hip hop, punk, or the popular music of a specific country, such as Korea or Brazil. Genres of music are examined in terms of their musical features and also in their relationship to social, political, virtual and ideological life. Students will be exposed to new modes of listening and a diverse set of writings that both reify and challenge popular music categories, as well as highlight diversity and change within genre.

Students who take this course at one level (200- or 300-) may not take it at the other level unless it is taught on a completely different topic. For example, student who takes MUS 225 Hip Hop Music may not subsequently take MUS 325 Hip Hop Music, but could take MUS 325 Asian Pop.

### **Prerequisites**

No prerequisites for enrollment in MUS 225; MUS 101 is required for enrollment in MUS 325

## **MUS241/341 - Global Music Regional Survey**

This course mirrors MUS 101, but with a closer focus on a particular region of the globe (Asia; Europe and the Middle East; Africa and Latin America; or Pacific 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.

MUS 341 is not open to students who have taken MUS 241.

### **Prerequisites**

No prerequisites for enrollment in MUS 241; MUS 101 is required for enrollment in MUS 341

## **MUS245/345 - 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.

MUS 345 is not open to students who have taken MUS 245.

### Prerequisites

No prerequisites for enrollment in MUS 245; MUS 101 is required for enrollment in MUS 345

### MUS251/351 - Jazz History

Jazz History is designed to acquaint students with the formation and history of Jazz Music. This will include listening and distinguishing relationships among the major periods and stylists in Jazz. The goal of this course is to equip the student with the necessary skills and knowledge to have an appreciation of the different styles. This will be done through assigned reading, listening to music, analysis of transcribed solos, lectures, presentations, live performance attendance, and discussions. Students in this course will further evaluate jazz characteristics by presenting concepts found in transcribed solos by legends such as Miles Davis, John Coltrane, and Thelonious Monk,. Students will also give presentations on Big Band writing characteristics through score study of Duke Ellington, Gil Evans, and Count Basie (others as well). Students taking the course at the 300-level will be expected to do more in-depth research and give class presentations.

MUS 351 is not open to students who have taken MUS 251.

### Prerequisites

No prerequisites for enrollment in MUS 251; MUS 101 is required for enrollment in MUS 351

### MUS261/361 - American Music

This course is an historical and stylistic examination of a variety of vernacular, popular, and art musics as they have evolved in North America over four centuries, including folk and popular songs and dances, concert music, sacred styles, jazz, theater musical, and ethnic and sub-cultural contributions.

MUS 361 is not open to students who have taken MUS 261.

### Prerequisites

No prerequisites for enrollment in MUS 261; MUS 101 is required for enrollment in MUS 361

### MUS270/370 - 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. Students taking this course at the 300-level will conduct more complex musical excerpts and will prepare and conduct a ten-minute rehearsal of the W&J Choir.

MUS 370 is not open to students who have taken MUS 270.

### Prerequisites

Must be able to read music

### MUS281/381 - Music in the Age of Technology

This course is an introduction into the various ways composers, musicians, directors, and producers have dealt with music within mediums of film, radio, and television. From the first moment that film and radio appeared in society, music has played an important role in the development and emotional impact of each medium. As a medium developed, the musical components evolved along with the technology offering new and creative ways to utilize music. This course will examine such concepts as the evolution of recording technology, film music characteristics, and the licensing of found music into a film or related media. Furthermore, the musical challenges apparent to each new technology within the context of film and radio will be analyzed. Lastly, the course will illustrate the modern use of a Music Supervisor in a film or radio program and how that differs from the more familiar concept of a Film Score Composer. Through discussion, lecture, presentation, and a final project (where students will be asked to place music within a film or radio program), this course will ultimately offer students a first-hand look into the creative decision process a composer and supervisor utilizes in the film and media industry.

MUS 381 is not open to students who have taken MUS 281.

### Prerequisites

No prerequisites for enrollment in MUS 281; MUS 101 is required for enrollment in MUS 381

### MUS282/382 - Digital Audio Recording and Manipulation

This course is designed to introduce students to the art of digital recording. Students will learn the various ways to capture a musical performance, and further learn to alter, manipulate, and adapt the recording to various mediums (video, radio, podcast, blog etc.). Through working with various Digital Audio Workstations (DAWs) such as GarageBand and later Logic Pro, the course will highlight the concepts of recording-based music genres such as music concrete, electronica, House and others. Other topics include the physical recording environment (microphone types, placement etc.), working with waveforms and sound envelopes, overdubbing, and legal/licensing issues in digital music. Final projects will consist of a larger recording project based on the material from class. Students taking this course at the 300-level will prepare a further advanced final project

including specific plug-ins and digital manipulations that require a more thorough understanding of the recording process.

MUS 382 is not open to students who have taken MUS 282.

### Prerequisites

No prerequisites for enrollment in MUS 282; MUS 101 is required for enrollment in MUS 382

## 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.

### Prerequisites

MUS 205 and 206

## 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.*

### Prerequisites

None

## 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 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

None

## MUSIC LITERATURE & THEORY

Classifications: Major Emphasis

**Department Chair:** Anoosua Mukherjee, Ph.D.

The emphasis in Music Literature & Theory is available to [Music](#) majors. It is suited for students who intend to pursue graduate study in music.

### MAJOR REQUIREMENTS WITH EMPHASIS IN LITERATURE & THEORY:

A minimum of 14 courses, including [MUS 101](#), [110](#), [205](#), [206](#), [306](#); two courses from [MUS 311](#), [312](#), [313](#); three courses from [MUS 215/315](#), [221/321](#), [225/325](#), [241/341](#), [251/351](#), [261/361](#), [270/370](#), [281/381](#), [282/382](#), two of which should be at the 300-level; two semesters of [MUA 307](#) or a [MUS 501](#) independent study in Form and Analysis; [MUS 401](#) with successful presentation of the senior music capstone project; four semesters of the same W&J ensemble chosen from [MUA 101](#), [111](#), [201](#), [211](#), [221](#); and the equivalent of one full course (4 credits) in any combination of 1/2-courses (2 credit) or 1/4-courses (1 credit) of applied study in a single area (voice or instrument):

#### 1 credit options

[MUA 021](#), [022](#), [031](#), [041](#), [042](#), [043](#), [044](#), [045](#), [051](#), [052](#), [053](#), [054](#), [061](#), [062](#), [063](#), [064](#), [065](#), [071](#), [072](#).

#### 2 credit options

[MUA 121](#), [122](#), [131](#), [141](#), [142](#), [143](#), [144](#), [145](#), [151](#), [152](#), [153](#), [154](#), [161](#), [162](#), [163](#), [164](#), [165](#), [171](#), [172](#).

## MUSIC MEDIA

Classifications: Major Emphasis

**Department Chair:** Anoosua Mukherjee, Ph.D.

The emphasis in Music Media is available to [Music](#) majors. There are many career paths that combine music and various media, such as film, video games, radio, and web-related digital music. This emphasis is suited to students who wish to pursue a career in one of these areas.

**MAJOR REQUIREMENTS WITH EMPHASIS IN MEDIA:** A minimum of 12.25 courses, including [MUS 101](#), [110](#), [205](#), [206](#), [381](#), [382](#); one course from [MUS 311](#), [312](#), [313](#), [315](#); two courses from [MUS 221/321](#), [225/325](#), [241/341](#), [245/345](#), [251/351](#), [261/361](#), one of which should be at the 300-level; one-course from [CIS 271](#) or [COM 261](#); [MUS 401](#) with successful presentation of the senior music capstone project; four semesters in one of the following

configurations: a) one-semester of [MUA 101](#), [111](#), [201](#), [211](#) or [221](#), two semesters of [COM 242](#), and one-semester of [MUA 307](#); b) two semesters of [MUA 101](#), [111](#), [201](#), [211](#) or [221](#), one-semester of [COM 242](#), and one-semester of [MUA 307](#).

## MUSIC PERFORMANCE

Classifications: Major Emphasis

**Department Chair:** Anosua Mukherjee, Ph.D.

The emphasis in Music Performance is available to [Music](#) majors. It is suited to students who wish to focus primarily on applied music study and performance supplemented by courses in music theory and history.

### MAJOR REQUIREMENTS WITH EMPHASIS IN PERFORMANCE:

A minimum of 13 courses, including [MUS 101](#), [110](#), [205](#), [206](#), [370](#); one course from [MUS 311](#), [312](#), [313](#), [315](#); two courses from [MUS 221/321](#), [241/341](#), [251/351](#), [261/361](#), at least one at the 300-level; [MUS 401](#) with a recital capstone; four semesters of the same W&J ensemble chosen from [MUA 101](#), [111](#), [201](#), [211](#), [221](#); and the equivalent of three full courses (12 credits) in any combination of 1/2-courses (2 credit) or 1/4-courses (1 credit) of applied study in a single area (voice or instrument):

#### 1 credit options

[MUA 021](#), [022](#), [031](#), [041](#), [042](#), [043](#), [044](#), [045](#), [051](#), [052](#), [053](#), [054](#), [061](#), [062](#), [063](#), [064](#), [065](#), [071](#), [072](#).

#### 2 credit options

[MUA 121](#), [122](#), [131](#), [141](#), [142](#), [143](#), [144](#), [145](#), [151](#), [152](#), [153](#), [154](#), [161](#), [162](#), [163](#), [164](#), [165](#), [171](#), [172](#).

A junior half recital is strongly recommended.

## NEUROSCIENCE

Classifications: Major, Minor

**Steering Committee:** Ronald Bayline, Ph.D.; Michael Leonard, Ph.D.; Kelly Lohr, Ph.D.; Nobunaka Matsuno, Ph.D.; Kelly Weixel, Ph.D.

**Program Directors:** Kelly Weixel, Ph.D.

The Neuroscience major is a rigorous interdisciplinary major, administered jointly by an advisory committee with representation from the biology, chemistry, physics, and psychology departments. It is designed to provide not only a foundation in neuroscience but to offer students the opportunity to focus their research interests on a variety of levels of nervous system functioning from the activity of single neurons to the complexity of behavioral systems. Majors distribute their course work across the fields of biology, chemistry, philosophy, physics, and psychology as these disciplines all contribute to the interdisciplinary nature of the brain sciences.

**MAJOR REQUIREMENTS:** Fourteen courses, as follows: [NSC 210](#), [NSC 300](#), and [NSC 400](#); [PSY 101](#); [BIO 121](#) and [BIO 131](#); [PHY 101](#) (or [107](#)) and [PHY 102](#) (or [108](#)); [CHM 160](#); [MTH 151](#) (or [MTH 125](#) or [BIO 245](#)). In addition, take three of the following, selected from two different departments: [BIO 305](#), [BIO 306](#), [BIO 235](#), [BCH 333](#),

[PSY 265](#), [PSY 270](#), [PSY 275](#), [PSY 380](#), [PHL 242](#). Students must also complete a capstone experience, which can be fulfilled by [BIO 412](#), [PSY 485](#), an independent study project ([NSC 500/501](#)), or an internship. All projects must be approved by the Neuroscience Steering Committee as a capstone requirement.

Note that students who major in either biology or psychology cannot also major in neuroscience.

**MINOR REQUIREMENTS:** Students must complete the equivalent of six courses for the minor. These courses include two introductory science courses from two different disciplines ([BIO 121](#) or [131](#), [CHM 160](#), [PHY 101](#) or [107](#), or [PSY 101](#)), the three core neuroscience courses ([NSC 210](#), [300](#), and [400](#)), and one of the following courses: [BIO 305](#), [BIO 306](#), [BIO 235](#), [BCH 333](#), [PSY 265](#), [PSY 270](#), [PSY 275](#), [PSY 380](#), [PHL 242](#). No more than three courses may also count towards a student's major.

### 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 every Fall term, and every other Spring term*

#### Prerequisites

One of the following courses: [BIO 121](#) or [131](#), [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 Spring term*

#### Prerequisites

[NSC 210](#) or [BIO 121](#) and [BIO 131](#)

## 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 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

NSC 300

## OTHER ACADEMIC OPPORTUNITIES

Classifications: Other

This area of study is a placeholder for unique courses that do not fall under one specific area.

## PHILOSOPHY

Classifications: Major, Minor

**Faculty:** David Holiday, Ph.D.; Hanna Kim, Ph.D.; Gregg Osborne,

Ph.D.; Michael Wolf, Ph.D.

**Department Chair:** Gregg Osborne, Ph.D.

The mission of the Philosophy Department is to promote thinking and learning about perennial questions of existence, knowledge, and value and to aid students in the development of skills that are of crucial importance in a wide range of careers. Among the skills emphasized most strongly by the department and fostered to an outstanding degree by the study of philosophy are careful reading of challenging texts, accurate analysis of complex arguments, critical thinking, and clear expression in writing and speaking. The department contributes to the mission of the College through excellence in teaching, participation in interdisciplinary programs, and provision of administrative support for the Religious Studies Program. It contributes to the discipline of philosophy through participation by its members in regional, national, and international conferences, and publication by its members in their areas of academic expertise.

**MAJOR REQUIREMENTS:** Nine PHL courses, including [PHL 123](#), at least one course in history of philosophy ([PHL 201](#), [204](#), or [205](#)), at least one at the 300-level, and [PHL 450](#) (the capstone). No more than four PHL courses at the 100-level can count towards the major.

**MINOR REQUIREMENTS:** Six PHL courses, including at least two at the 200-level or above.

## PHL101 - Introduction to Philosophy

This course provides an introduction to philosophy by way of three central topics: free will, personal identity, and knowledge. Questions explored in each of these sections include: (1) Are we free? Or are all our actions predetermined by past events and laws? If the latter, can we hold one another morally responsible for anything we do? (2) What does it take for one and the same person to continue existing across time? And what implications does this have for romantic love? (3) What is knowledge? If there is an external world beyond our own perceptions and ideas, can we know anything about it? How do we know we are not living in a Matrix?

### Prerequisites

None

## PHL123 - Intro to Logic

This course provides an introduction to deductive reasoning through the study of a formal system, i.e., sentential and predicate logic. In particular, students will learn basic logical concepts and learn to symbolize arguments, analyze the truth values of statements, and formally test arguments for validity. Further topics may include counterfactuals, modal logic, and inductive logic. The course is intended to give students a thorough understanding of the fundamental forms of reasoning and rational argument and to improve critical reasoning skills that could be of use in a wide range of disciplines and careers.

### Prerequisites

None

### **PHL130 - Moral Philosophy**

This course provides a survey of major approaches to moral theory, combined with exploration of concrete moral issues. On the theoretical side, we will discuss such issues as the existence of objective moral facts, the nature of right action, and the ways in which our moral attitudes shape our social institutions. On the concrete side, we will explore such issues as abortion, obligations to the less fortunate, and human treatment of non-human animals.

#### **Prerequisites**

None

### **PHL135 - Social and Political Philosophy**

This course explores classical and contemporary conceptions of the proper nature and legitimate purposes of social and political communities. It explores the theories of such figures as Plato and Rousseau, writings on liberation by such contemporary theorists as Carol Gould, Martin Luther King and Angela Davis, explorations of identity by Kwame Appiah, and a recent defense of liberal democracy by Francis Fukuyama.

#### **Prerequisites**

None

### **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 different social and cultural traditions? What are the requirements of racial fairness?

#### **Prerequisites**

None

### **PHL145 - Faith and Reason**

This course considers some of the main philosophical questions that relate to religious belief. What does the term 'God' mean, at least in the theological traditions with which most of us are most familiar? Are there good arguments in support of the claim that God exists? Why would God allow for so much suffering and evil? Does religious belief need to be grounded on evidence? What are we to make of the fact that there are so many religions? Does that mean that all but one (at most) of those religions must be false, or might it somehow be that many are true?

#### **Prerequisites**

None

### **PHL201 - Classical Philosophy**

This course traces the development of philosophy in ancient Greece and the Roman Empire. After a brief initial glance at some selected pre-Socratics, it digs deeply into Plato. Among the main topics are his relation to Socrates, his doctrine of recollection, his political views, his theory of forms, and his conception of the most fulfilling human life. Next is Aristotle, with special emphasis

on his account of the relation between human excellence and human happiness, his doctrine of the mean, and his efforts to avoid fatalism. The course then proceeds to surveys of Stoicism and Epicureanism, the Hellenistic schools that dominated the intellectual landscape of the Greek and Roman worlds for around 500 years.

#### **Prerequisites**

One PHL course or permission of the instructor

### **PHL204 - Early Modern Philosophy**

This course will provide a general introduction to epistemological and metaphysical ideas developed by such philosophers as Descartes, Spinoza, Locke, Berkeley, and Hume. What (if anything) can I really and truly know? How can I know it? Does everything that exists and everything that happens do so as a matter of necessity? Would this leave room for freedom and moral responsibility? Can all of our ideas be derived from experience or must some of them have a different origin? Are there insoluble problems with the concept of matter? Is inductive reasoning grounded merely on instinct? How is geometrical knowledge possible and what does this reveal about the nature of reality?

#### **Prerequisites**

One PHL course or permission of the instructor

### **PHL205 - Philosophy in the Nineteenth Century**

This course begins with the ideas of Hegel concerning reason, reality, and historical development. Its next main focus is Marx, who began his intellectual life as a Young Hegelian. It then moves to Kierkegaard, who consciously eschewed the Hegelian approach to philosophy and religion, emphasized the subjective, and in the process emerged as one of the foremost precursors of existentialism. The course concludes with Nietzsche, who sought to uncover the true origins of conventional morality and religious belief and thus set the stage for an epochal reevaluation of values.

#### **Prerequisites**

One PHL course or permission of the instructor

### **PHL220 - Theories of Knowledge**

This course presents a detailed introduction to central themes and topics in the philosophical discipline known as epistemology. It centers mainly on the notion of justification and the question of what reasons or conditions separate genuine knowledge from mere opinion.

#### **Prerequisites**

One PHL course or permission of the instructor

### **PHL221 - Adventures in Metaphysics**

Metaphysics is concerned with fundamental questions about the nature of reality. This very partial introduction will focus on an interrelated set of questions concerning identity, persons, survival, and time. It will first explore identity and change of composition with respect to inanimate objects. It will then delve

into the nature of persons and the possibility of their survival after physical death and in other conceivable scenarios. Since these initial topics touch at some points on the nature of time, it will take a brief foray into the possibility and conceptual complications of time travel before concluding with the possibility that the world in which we seem to be living is a computer simulation.

### Prerequisites

One PHL course or permission of the instructor

## PHL222 - Philosophy of Language

This course investigates some of the main philosophical issues related to language. It is primarily concerned with the nature of meaning and reference. How do our words succeed in picking out particular portions of reality, even ones with which we have had no contact? What are the thoughts, or the meanings, that our words carry? And whatever meanings turn out to be, how do they come to be associated with our words: through some mental activity on our part, or instead through our shared use of language? After we consider several theories about the nature of literal meaning and reference, we will discuss the topics of metaphor and slurs.

### Prerequisites

One PHL course or permission of the instructor

## PHL225 - Philosophy of Science

This course examines philosophical issues concerning the nature of scientific explanation, the confirmation of scientific hypotheses, and the character of scientific change. It also examines the rules of data, theory, and the dynamic of scientific communities in the process of gaining knowledge.

### Prerequisites

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 meta-ethics (accounts of the nature of moral theories and facts).

### Prerequisites

One PHL course or permission of the instructor

## PHL231 - Environmental Ethics

This course provides a basic introduction to some of the most crucial theoretical issues in environmental ethics. These include different sorts and sources of value, the nature and grounds of our obligations to future human generations, the nature and grounds of our obligations to non-human animals, the contention that we have obligations to non-sentient as well as sentient organisms, and the contention that we have obligations to species and ecosystems as wholes as opposed to individual organisms within them. The course also explores ethical issues related to anthropogenic climate change.

### Prerequisites

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 the instructor

## PHL235 - Theories of Justice

This course will explore the most prominent and influential accounts of justice developed in recent decades. It will take its start from the monumental work of John Rawls, who challenged the dominance of utilitarian approaches to social and political issues and revived the contractarian tradition. It will then consider libertarian, egalitarian, and communitarian responses to Rawls, conceptions of justice concerned less with distribution than with subtle and pervasive forms of domination and oppression, and concrete examples of injustice involving such factors as gender and race.

### Prerequisites

One previous course in philosophy 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 the instructor

## PHL238 - Aesthetics

This course investigates philosophical issues concerning the status, nature, experience, and interpretation of art. We will consider questions such as these: What is art? What is the relation between aesthetic and non-aesthetic properties? Should historical background and authorial intention affect an artwork's aesthetic properties? Are there limits to what we can imagine within fictional works of art? How should we make sense of our seemingly real emotional engagement with fictional entities? Are aesthetic judgments subjective?

### Prerequisites

One PHL course or permission of the instructor

## PHL242 - Philosophy of Mind

In this course, we will investigate age-old problem in philosophy known as the "mind-body problem", i.e., What is the relationship between the mind and the body -- between the mental realm

(the realm of thoughts, beliefs, pains, sensations, emotions) and the physical realm (matter, atoms, neurons)? Are your thoughts, feelings, perceptions, sensations, and wishes things that happen in addition to all the physical processes in your brain, or are they themselves just some of those physical processes? We will consider responses from dualists, behaviorists, identity theorists, functionalists, instrumentalists, and eliminativists.

### Prerequisites

One PHL course or permission of the instructor

### PHL245 - Moral Psychology

This course explores how and why we make moral judgments about people and their behavior. We make moral judgments all the time—we might condemn a criminal's behavior, view an institution's policies as immoral, or blame a friend for how they've treated us. This class investigates the psychological processes that underlie our moral judgments. When do we blame other people, and why? Are our moral judgments driven by emotion or by reasoning? What goes on at the neuronal or brain level when we engage in moral judgment? We examine such questions in this class, first gaining a broad understanding of moral psychological processes, and then applying this understanding to specific topics like moral foundations, cultural disagreement, character traits, and criminal justice.

### Prerequisites

One PHL course

### PHL270 - Topics in Philosophy

An intermediate-level course devoted to a topic that is not the focus of a regular offering.

### Prerequisites

One PHL course or permission of the instructor

### PHL341 - Kant

Immanuel Kant is among the most influential philosophers of all time. He lived from 1724 to 1804 and his work has had a deep and lasting influence in such fields as epistemology, metaphysics, moral philosophy, aesthetics, and philosophy of religion. This course will first explore some crucial sections of his foundational work, the *Critique of Pure Reason*. These will concern his views on the conditions and limits of human knowledge and his radical distinction between things as they appear and things as they are in themselves. The course will then turn to his moral theory and conclude with his views on religion.

### Prerequisites

Two PHL courses or permission of instructor

### PHL342 - Experimental Philosophy

Experimental philosophy is a new movement that supplements traditional 'armchair' philosophical methodology with the methods of psychology and cognitive science, using systematic experiments to uncover how people actually think about a range of issues in traditional philosophy. Topics will include: (i) What is experimental philosophy?; (ii) intuitions of ordinary people

and why they matter; (iii) Are philosophers experts?; (iv) the experimental philosophy of morality; and the experimental philosophy of free will.

### Prerequisites

Two PHL courses or permission of instructor

### PHL343 - Pragmatism

Pragmatism is a philosophical approach pioneered in America during the late nineteenth century. This course examines its initial introduction by such figures as Pierce and Dewey, the reemergence of themes central to it in the context of analytic philosophy in the mid-twentieth century, and its role in the "post-analytic" philosophy of such recent contributors as Putnam and Rorty.

### Prerequisites

Two PHL courses or permission of instructor

### PHL370 - Advanced Topics in Philosophy

An upper-level course devoted to a topic that is not the focus of a regular offering.

### Prerequisites

Two PHL courses or the permission of the instructor.

### PHL450 - Research Seminar in Philosophy

The capstone course for the major, in which participants engage in independent research on a topic of their choice, produce an essay based on that research, provide constructive feedback to peers in the same process, and present their findings in an open setting at the end of the semester.

### Prerequisites

At least four previous PHL courses and declaration of intent to major in the field

### 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 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 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

None

## PHILOSOPHY & PHYSICS

Classifications: Major Emphasis

**Department Chair:** Cory Christenson, Ph.D.

Science is a powerful way of generating knowledge. This major emphasis explores the epistemological foundations of knowledge of the physical world, including the acquisition, evaluation, and limitations of that knowledge. Students pursuing this course of study will seek to understand the fundamental questions in metaphysics, epistemology, and philosophy of science from the perspectives of classical and early-modern philosophy, and apply them to physics fields at the frontier of discovery. This is a good emphasis for those interested in the deepest questions in science. Students will learn quantitative skills, as well as reading, writing, and communicating science. This emphasis prepares students for not only graduate study in physics or philosophy, but also careers in legal professions, intellectual property, and communication.

**MAJOREMPHASIS IN PHILOSOPHY & PHYSICS:** [MTH 151](#), [MTH 152](#), [PHY 101](#) or [PHY 107](#), [PHY 108](#), [PHY 209](#), [PHY 219](#), [PHY 250](#), and these specific requirements for the emphasis: one of [PHY 313](#), [PHY 317](#), [PHY 319](#), [PHY 327](#); [PHY 322](#) or [PHY 350](#); [PHL 101](#); [PHL 123](#); one of [PHL 201](#), [PHL 204](#), [PHL 205](#); one of [PHL 220](#), [PHL 221](#), [PHL 225](#), [PHL 232](#), [PHL 242](#). Capstone: [PHY 400](#) or [PHL 450](#) focusing on a relevant topic.

## PHYSICAL ACTIVITY AND WELLNESS

Classifications: Other

**Program Directors:** Carol Glock, M.Ed.

The W&J Physical Activity and Wellness program contributes to the College's mission of graduating lifelong learners and responsible citizens by encouraging behaviors and habits conducive to healthy living and being. The program supports the College's Student Outcomes by emphasizing individual agency and initiative, self-awareness, motivation, self-direction, and the importance of taking responsibility for one's own physical and emotional health. Students learn how to make responsible decisions about their health and wellness, and strategies for converting those decisions into positive actions. The program is built upon the conviction that physical and emotional health are fundamental to academic success and the development of meaningful lives. Health and Wellness (PHW) courses require students to engage in self-reflection and decision-making about health and wellness issues, including appropriate responses to physical, emotional, or environmental stresses and understanding factors to develop a healthy life. Physical Activity (PHA) courses require students to engage in sustained participation in physical activity in a proper and safe manner, following a structured plan in pursuit of appropriate goals for improvement. Physical Activity (PHA) and Health and Wellness (PHW) courses taken toward fulfillment of graduation requirements are included in tuition. Students who have completed either portion of their Physical Activity or their Health and Wellness courses toward fulfillment of graduation requirements may take additional courses in that category at additional cost.

## PHA/PHW200 - Health, Wellness, and Physical Education in the Elementary School

(1 Full Course; 1/2 course PHA and 1/2 course PHW)

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.*

### Prerequisites

None

## PHA101 - Beginning Racquetball

(1/4 Course)

An introduction to the sport of racquetball, this course emphasizes skill development, knowledge of rules, and playing strategies.

### Prerequisites

None

## PHA104 - 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.

### Prerequisites

None

## PHA105 - 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.

### Prerequisites

None

## PHA106 - Cardio Tennis

Cardio Tennis is an engaging group fitness program on the tennis court featuring the heart-pumping effects of tennis drills, tennis games, and skills, delivering the ultimate full body and calorie-burning aerobic and anaerobic workout. Cardio Tennis is considered the third way to play tennis, singles, and doubles being the first and second ways.

### Prerequisites

None

## PHA107 - 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.

### Prerequisites

None

## PHA108 - 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.

### Prerequisites

None

## PHA109 - Weight Training

(1/2 Course)

This course is designed to teach the proper mechanics and benefits of weight training.

### Prerequisites

None

## PHA111 - Badminton

(1/4 Course)

This course is an introduction to the basic strokes and strategy of badminton.

### Prerequisites

None

## PHA112 - Beginning Swimming

(1/2 Course)

This course is an introduction to survival techniques and basic stroke mechanics to those individuals who cannot swim.

### Prerequisites

None

## PHA113 - 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.

### Prerequisites

None

## PHA115 - Kung Fu Beginner Level Dragon Style

(1/2 Course)

This course is an introduction to the basic movements, step forms, and self-defense applications of the dragon style which features a very upright stance, and uses circular motions to keep an attacker guessing about where the strike will be coming from. This motion, coupled with quick strikes at the vulnerable areas of the attacker, allows a person to disable their aggressor and escape the situation.

### Prerequisites

None

## PHA116 - Beginning Yoga

(1/2 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.

### Prerequisites

None

## PHA117 - Beginning Golf

(1/4 Course)

This course is an introduction to the fundamental techniques and skills of golf. The students will learn the rules, regulations, and etiquette associated with the game. A greens fee will be assessed for this course.

### Prerequisites

None

## PHA119 - 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.

### Prerequisites

None

## PHA120 - Pickle Ball

Pickle ball is a sport whose popularity is growing rapidly. It is played on a court roughly the size of a volleyball court, uses a tennis net, a wooden or composite paddle, and a ball like a whiffle ball. Students will be taught the rules of the game, practice the shots and skills important for success when playing, and will apply what they have learned as they play.

### Prerequisites

None

## PHA121 - Lacrosse

(1/4 Course)

This course introduces the history, basic rules, strategies, skills, and general play of lacrosse.

### Prerequisites

None

## PHA122 - Water Aerobics

(1/4 Course)

A water exercise class focusing on cardiovascular conditioning and muscle toning.

### Prerequisites

None

## PHA123 - Self Defense for Women

(1/4 Course)

This course is an introduction to basic self defense techniques from a front, side, or rear attack.

### Prerequisites

None

## PHA124 - 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.

### Prerequisites

None

## PHA126 - Practical Self Defense for Men and Women

(1/2 Course)

This course is an introduction to basic practical and effective self-defense techniques.

### Prerequisites

None

## PHA127 - Kung Fu Beginner Level Longfist Style

This is a Chinese Martial Arts course made up of one 28-step beginner level Longfist style Kung Fu form. Representative defense applications will be taught. Students will learn multiple blocks, strike, and kick techniques. Strengthening will be done through isometrics. This is an activity-based course; as a result of taking this course students will develop their flexibility, strength, fitness, Kung Fu form, and self-defense.

### Prerequisites

None

## PHA128 - Tai Chi for a Healthy Body and Mind

This extremely rare version of Yang style Tai Chi Chuan will challenge any student seeking a complete mind and body experience. Tai Chi is a soft style martial art offering stress relief, strength development, healing and enhanced focus. This is all achieved through zero impact, smooth flowing motion. When combined with correct breathing, this Tai Chi will help balance mind and body.

### Prerequisites

None

## PHA141 - Introduction to P90X

P90X is an extreme fitness program designed for individuals in good physical condition and health. This course is structured so that you will get to participate in a wide variety of workouts as a precursor to pursuing the 90 day workout program to the fullest extent.

### Prerequisites

None

## PHA201 - Intermediate Racquetball

(1/4 Course)

This course is designed to teach advanced shots, movement patterns, doubles play, and strategies of racquetball.

### Prerequisites

None

## PHA208 - 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.

### Prerequisites

None

## PHA215 - 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.

### Prerequisites

None

## PHA216 - 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.

### Prerequisites

None

### PHA217 - 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.

### Prerequisites

None

### PHW102 - The Benefits of Strength and Conditioning for Healthier Living

(1/2 Course)

This course will teach students about the benefits of strength and conditioning; how a well-planned training program can enhance both physical and mental well being throughout each stage of life, and how exercise habits must change and adapt over the course of our lives. Athletes and non-athletes alike will learn how to design training programs and develop exercise habits that will help them maximize their living potential and mental (mind) and physical (body) wellness.

### Prerequisites

None

### PHW103 - Nutrition for Health and Fitness

(1/2 Course)

This course focuses on the understanding and application of nutrition principles for the student interested in good health and exercise. Some sections of this course may be limited to student-athletes.

### Prerequisites

None

### PHW106 - 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. Some sections of this course may be limited to student-athletes.

### Prerequisites

None

### PHW107 - Vitamin N: Connecting Nature and Wellness

(1/2 course)

This course introduces students to the relationships among physical and mental well-being and spending time in nature. Students will read and discuss both historical evidence and contemporary scientific studies to better understand how spending time in nature can lower stress, and improve cognitive skills, relaxation and revitalization. Students will spend most periods walking and sitting in nearby woodlands and will learn techniques to assess their own physical and mental well-being. Students will complete a personal plan to achieve health and wellness.

### Prerequisites

None

### PHW110 - Wellness Practices for Personal Success

This course focuses on the understanding and application of the wellness& continuum model for the individual seeking lasting health. Topics presented include physical, mental, emotional, and spiritual health considerations, as well as applying these health topics relevant to lifestyle needs. Nutrition, exercise, mindfulness, and stress management concepts will be discussed. The students will learn how to develop a sustainable lifestyle wellness plan they can utilize throughout their college career and life.

### Prerequisites

None

### PHW114 - 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.

### Prerequisites

None

### PHW118 - CPR and AED Training/Certification

(1/4 Course)

This course is designed to give elementary first aid training, basic life support capabilities, and AED training. Red Cross certification in these areas may be obtained.

### Prerequisites

None

### PHW142 - Yoga and Meditation

This is a yoga and meditation course, which contributes to holistic wellness of mind, body, and spirit. Yoga exercises and techniques are introduced that reduce stress, promotes relaxation

and increases focus and clarity to manage physical and emotional well-being.

## Prerequisites

None

## PHW143 - Mindfulness in Music

This course explores the practice of mindfulness, its applications in music, and its benefits in music and in life. Mind/body connection, creativity, managing stress, and bringing relaxed, focused attention to listening, practicing, and performing music will be addressed. This course is appropriate for Music majors and minors; those with a strong interest in music education, music therapy, or musical theater; and music hobbyists. The ability to play an instrument is recommended but not required.

## Prerequisites

None

# PHYSICS

Classifications: Major, Minor

**Faculty:** Sara Chamberlin, Ph.D.; Cory Christenson, Ph.D.; Michael McCracken, Ph.D.; William Sheers, Ph.D.

**Department Chair:** Cory Christenson, Ph.D.

Physics is the scientific study of the matter and interactions that constitute our physical Universe. With a few far-reaching laws and a broad array of mathematical tools, physicists seek to understand and harness interactions at all observable scales and in many contexts, from fundamental particles to the Universe as a whole. This approach informs other scientific fields, leading to knowledge generation at the boundaries between physics and biology, chemistry, mathematics, computing, and engineering.

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 with faculty, training in professional laboratory and communication skills, opportunities for research, and a sense of community. The department's offerings include a major and minor in physics, several major emphases that combine physics with related fields, and courses in the areas of physics, earth and space science, computation, and environmental studies. We also offer several major emphases that are geared towards the physics student who has strong interdisciplinary interests: [Biological Physics](#), [Chemical Physics](#), [Experimental Physics](#), [Mathematical Physics](#), and [Philosophy & Physics](#). The capstone for the major may be satisfied by completing either a semester-long literature review or a two-semester-long independent research experience.

**MAJOR REQUIREMENTS:** [MTH 151](#) and [152](#); [PHY 101](#) or [107](#); [PHY 108](#), [209](#), [219](#) (2 credits), [220](#) (2 credits), [250](#); [PHY 400](#) or [PHY 441/442](#) (capstone); three additional physics courses at the 300 level, two of which must be from [PHY 313](#), [317](#), [319](#), [322](#) and

[331](#). Students are encouraged to take [MTH 208](#).

Students who wish to pursue an emphasis within the Physics major complete MTH 151, MTH 152, PHY 101 or PHY 107, PHY 108, PHY 209, PHY 219 (2 credits), PHY 250, and the specific requirements for the emphasis of interest:

**MAJOR EMPHASIS IN BIOLOGICAL PHYSICS:** [BIO 121](#), [131](#); [CHM 160](#), [170](#); [PHY 317](#) or [CHM 360](#); [PHY 220](#); [PHY 327](#); one 300-level PHY course; one of [BIO 201](#), [212](#), [311](#), [314](#), [NSC 300](#), [BCH 333](#). Capstone: [PHY 400](#) or [441/442](#) focusing on a relevant topic

**MAJOR EMPHASIS IN CHEMICAL PHYSICS:** [CHM 160](#), [170](#), [260](#), [270](#); [PHY 313](#), [331](#); [PHY 317](#) or [CHM 360](#). Capstone: [PHY 400](#) or [441/442](#) focusing on a relevant topic, or [CHM 465](#)

**MAJOR EMPHASIS IN EXPERIMENTAL PHYSICS:** [PHY 220](#), [322](#), [350](#); three 300-level PHY lecture courses. Capstone: [PHY 441/442](#) with laboratory-based project

**MAJOR EMPHASIS IN MATHEMATICAL PHYSICS:** [MTH 170](#) or [217](#), [205](#), [208](#), [308](#); [PHY 220](#); four 300-level PHY lecture courses. Capstone: [PHY 400](#) focusing on a relevant topic

**MAJOR EMPHASIS IN PHILOSOPHY & PHYSICS:** One of [PHY 313](#), [317](#), [319](#) or [327](#); [PHY 322](#) or [350](#); [PHL 101](#); [PHL 123](#); one of [PHL 201](#), [204](#), [205](#); one of [PHL 220](#), [221](#), [225](#), [232](#), [242](#). Capstone: [PHY 400](#) or [PHL 450](#) focusing on a relevant topic

**MINOR REQUIREMENTS:** [MTH 151](#) and [152](#); [PHY 101](#) or [107](#); [PHY 108](#), [209](#), [250](#); one 300-level course from [PHY 313](#), [317](#), [319](#) and [331](#).

**NOTE:** Students may not receive credit for both PHY 101 and PHY 107; or PHY 102 and PHY 108.

**AP Policy:** Students scoring a 5 on PHYSICS 1 AP test receive credit for PHY 101. Students receiving a 5 on PHYSICS 2 AP test receive credit for PHY 100. 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. Students may not receive credit for both PHY 101 and PHY 107; or PHY 102 and PHY 108.

## Prerequisites

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 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. Students may not receive credit for both PHY 101 and PHY 107; or PHY 102 and PHY 108.

## Prerequisites

MTH 151 as a pre- or corequisite for PHY 107; for PHY 108, PHY 101 or 107 is a prerequisite and MTH 151 is a pre- or corequisite

## 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.

## Prerequisites

None

## PHY150 - Seeing the Light

This is an introductory course for non-science majors that examines the complex process of how we perceive visual images both through the naked eye and through sophisticated optical instruments. The course will examine several elementary topics in the fields of optics, optical instruments, vision, and color. A three-hour laboratory meeting once per week accompanies the lecture part of the course. Specific topics covered include: elementary properties of light, image formation by simple lenses and mirrors, optical instruments (eyeglasses, the camera, telescopes and the compound microscope), the human eye, visual processing, binocular vision, color and color perception, wave optics, scattering and polarization, and holography.

## Prerequisites

None

## PHY151 - 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*

## Prerequisites

None

## PHY209 - Modern Physics

An introduction to modern physics, including quantum physics and special relativity. The theory is developed from the observed experimental phenomena.

## Prerequisites

PHY 108; MTH 152 as a pre- or corequisite

## PHY219 - Introduction to Experimental Techniques

(2-credit course)

This course involves a series of experiments demonstrating fundamental physical paradigms of 20<sup>th</sup> century physics. Students will learn the foundational experimental techniques that are used in all areas of research and engineering. This course will introduce students to the professional skills of scientific report writing, including how to convey information to a technical audience, how to use LaTeX for professional document preparation, and the revision process. Students will also learn how to maintain a professional notebook, handle and propagate uncertainty, and perform non-linear curve fits. Typical experiments will involve the quantum nature of light, wave particle duality, nuclear physics, materials science, and optics. The skills learned in this course are the basis for all experimental physics in the curriculum.

## Prerequisites

PHY 102 or PHY 108; MTH 152

## PHY220 - Introduction to Computation for the Physical Sciences

(2-credit course)

Computing has become an integral part of knowledge generation in many areas of the natural and behavioral sciences. Computing drives cutting-edge research in diverse fields such as protein folding, astrophysics and cosmology, dynamic properties of molecules, and artificial intelligence. This course is an introduction to fundamental computing concepts and programming skills relevant to the quantitative sciences. Students will investigate techniques such as iteration, recursion, functions, data I/O, data visualization, curve fitting, and simulation in an interactive laboratory setting. PHY 220 is intended to prepare students to leverage computational techniques in courses, research, and careers.

## Prerequisites

MTH 151; one course from PHY 107, CHM 160, BIO 121, BIO 131, ECN 101, or ECN 102

## PHY250 - Mathematical Methods for the Physical Sciences

This course is an introduction to Mathematical topics and techniques important for their physical relevance and application. Course topics typically include coordinate systems, vector functions, vector calculus, power series, ordinary and partial differential equations, Fourier and Laplace transforms, numerical integration and differentiation, complex numbers and functions,

linear algebra and matrix manipulations, probability, nonlinear equations, and dynamics. In addition, the course introduces students to foundational principles in scientific computation and simulation.

*Three hours lecture, three hours lab*

### Prerequisites

PHY 107, MTH 151, and MTH 152

### PHY313 - Electricity and Magnetism

Electric and magnetic fields, including interaction with matter, Maxwell's equations, and an introduction to special relativity are presented.

### Prerequisites

PHY 108 and PHY 250; PHY 220 as a pre- or corequisite

### PHY317 - Thermal and Statistical Physics

Temperature, entropy, heat and work, classical and quantum statistics, cryogenics, and kinetic theory are studied.

### Prerequisites

PHY 250; PHY 220 as a pre- or corequisite

### 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.

### Prerequisites

PHY 107 and PHY 250; PHY 220 as a pre- or corequisite

### 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*

### Prerequisites

PHY 108 and PHY 219

### 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 functions. A portion of the course will survey topics in current biological physics research.

### Prerequisites

PHY 102 or PHY 108; PHY 220 and PHY 250 as pre- or corequisites

### 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

PHY 209 and PHY 250; PHY 220 as a pre- or corequisite

### PHY350 - Advanced Laboratory

This course provides an introduction to many advanced techniques relevant to modern physics experimentation by combining lecture content with hands-on laboratory applications. Topics covered include data acquisition, data analysis and visualization, statistics, error analysis, curve fitting, instrument interfacing and automation, and experiment and apparatus design. Though they will be presented and exercised in the context of modern physics experiments, these skills are common to work in industry and research in many subfields of the natural sciences.

### Prerequisites

PHY 219

### 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

### PHY400 - Senior Physics Seminar

(2-credit course)

This course serves as an introduction to current fields of physics and interdisciplinary research through review and scholarly articles. Study of current experimental and theoretical research methods is achieved through searching literature, critical reading, and oral presentations in a predominantly student-led format. Students' work in the course culminates in a comprehensive paper and presentation on a field of study or specific analysis. (This course may be counted as a capstone experience for the physics major).

### Prerequisites

None

### PHY441, 442 - Senior Research I, II

(1-credit course, unbilled)

Independent senior research, under departmental approval and supervision, including literature search, design and construction

of experiment, theory, or 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. Students must successfully complete PHY 441 in order to be eligible to enroll in PHY 442. PHY 442 satisfies the capstone requirement for the Physics major.

### Prerequisites

PHY 441

### 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.

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

None

## POLITICAL SCIENCE

Classifications: Major

**Faculty:** Joseph DiSarro, Ph.D.; Zheya Gai, Ph.D.; Joel Kersting, Ph.D.; Buba Misawa, Ph.D.

**Department Chair:** Buba Misawa, Ph.D.

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](#), [POL 310](#), [POL 312](#), [PPL 313](#), [POL 314](#), [POL 315](#), [POL 411](#), and [POL 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 125](#) 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.

Students majoring in Political Science may not also major in Public Policy. Students majoring in Political Science may minor in Public Policy with a limit of two courses counting toward both courses of study.

**AP Policy:** Students scoring a 4 or 5 on the Comparative Government and Politics AP test receive credit for a POL elective course (POL 100 AP). 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*

### Prerequisites

None

### 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.

### Prerequisites

None

### 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.

### Prerequisites

None

### **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.

#### **Prerequisites**

None

### **POL210 - Urban Politics**

Traditional structures of government in the context of change and factual and normative aspects of the "New Federalism" are studied.

#### **Prerequisites**

None

### **POL212 - Political Parties**

A study of party organization, operation, and underlying assumptions in modern democratic societies, the emphasis is on the American party system.

#### **Prerequisites**

None

### **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.

#### **Prerequisites**

None

### **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.

#### **Prerequisites**

None

### **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.

#### **Prerequisites**

None

### **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.

#### **Prerequisites**

None

### **POL233 - Politics of East Asia**

This course is a basic introduction to the, political systems, political economy, and, international relations in East Asia, including, both Northeast and Southeast Asia. It examines the, major political, economic, and security issues in, contemporary East Asia through the analytical, lenses of history, comparative politics, and, international relations.

#### **Prerequisites**

None

### **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.

#### **Prerequisites**

None

### **POL250 - Special Topics**

This course is a study of selected problems, issues, and cases in political science.

#### **Prerequisites**

None

### **POL302 - Modern State: Health Care Politics**

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.

#### **Prerequisites**

None

### **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.

#### **Prerequisites**

POL 111

### **POL311 - 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 officeholders. Policy issues related to genders, such as employment equity and reproductive rights, are also examined.

#### **Prerequisites**

None

### **POL312 - Women and Politics II**

This course provides an overview of women in American politics from the passage of women's suffrage to the present with an emphasis on women as voters, political candidates, and members of interest groups as well as how women govern. Policy issues related to gender, such as employment equity and reproductive rights, are also examined.

#### **Prerequisites**

None

### **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 election, accountability, personality, and the comparative analysis of selected presidents.

#### **Prerequisites**

POL 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.

#### **Prerequisites**

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.

#### **Prerequisites**

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.

#### **Prerequisites**

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.

#### **Prerequisites**

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 systems, forms of governments, processes, and policy. These concepts will be introduced through the comparative study of different European parliamentary political systems, including the European Union.

#### **Prerequisites**

POL 120 or permission of instructor

### **POL331 - Politics of Developing Countries**

This course is an examination of politics in 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.

#### **Prerequisites**

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

### **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.

### Prerequisites

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.

### Prerequisites

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.

### Prerequisites

None

## 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 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

None

## PRE-HEALTH PROFESSIONS PROGRAM

Classifications: Pre-Professional

**Program Directors:** Mark Harris, Ph.D.

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 Pre-Health Professions Committee (PHPC), they should register with the PHPC 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 14 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 Pre-Health Professions Committee and on the [pre-health webpage](#).

The College has agreements regarding admission of qualified students to the Lewis Katz School of Medicine at Temple

University; the Lake Erie College of Osteopathic Medicine programs in osteopathic medicine, dentistry, and pharmacy; the Chatham University graduate programs in physical therapy, physician assistant studies, and occupational therapy; the Sydney Kimmel Medical College at Jefferson University; and the Pennsylvania College of Optometry at Salus University. Details are available under the Health Professions School Affiliations link on the pre-health webpage.

## PRE-LAW

Classifications: Pre-Professional

**Program Directors:** Joseph DiSarro, Ph.D.

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

Classifications: Minor

**Steering Committee:** Stevie Berberick, Ph.D.; Jennifer Harding, Ph.D.; Kathleen McEvoy, Ph.D.; Sharon Taylor, Ph.D.; Linda Troost, Ph.D.

**Program Directors:** Linda Troost, Ph.D.

The Professional Writing program develops proficiencies in writing, research, technology use, and document design and teaches you how to engage with audiences in an increasingly interconnected digital world. The flexible minor complements any major, and you can select among courses offered by a variety of departments to suit your own academic and professional goals.

You can also pursue a relevant experience and count it toward the minor. Perhaps you would like to write for or edit the *Red and Black*, W&J's newspaper, or the *Wooden Tooth Review*, the student literary magazine. Or you might want to pursue an internship, working as a blogger, newsletter writer, editorial assistant, or social-media manager. Recently, professional-writing students have interned at businesses, non-profits, museums, and publishing houses. Our program also has long-standing relationships with the Main Street Farmers Market, the Washington County Historical Society, and other local organizations.

Upon completing the minor in professional writing, you will be able to write effective content for target audiences in a variety of professional genres; create and present effective content using specialist technology applications; employ effective search strategies to locate valid sources and supporting materials; effectively and appropriately integrate text with multimedia modalities; and understand expectations for professionalism and

abide by legal, ethical, and accessibility standards.

**MINOR REQUIREMENTS:** Five affiliated courses from two or more departments and including one or more of the following courses: [COM 230](#) (*Journalism*), [ENG 201](#) (*Professional Writing*), [ENG 301](#) (*Writing for Online Platforms*). Students may complete a pre-approved internship or two-semester editorship in place of one course; submission of a portfolio will be required.

### AFFILIATED COURSES

For students in any major: [CIS 245](#), [CIS 271](#), [CIS 275](#), [COM 230](#), [COM 281](#), [ENG 200](#), [ENG 201](#), [ENG 202](#), [ENG 203](#), [ENG 301](#), [ENG 401](#), [HIS 272](#). For students in specific majors: [BIO 350](#), [BUS 308](#), [BUS 309](#), [FRN 371](#), [GER 371](#), [HIS 372](#), [SPN 371](#). Additional courses will be affiliated on a semester-by-semester basis.

## PSYCHOLOGY

Classifications: Major, Minor

**Faculty:** Elizabeth Bennett, Ph.D.; Hannah Bradshaw, Ph.D.; Kevin Carriere, M.P.P., Ph.D.; Sean Coyne, Ph.D.; Michael Crabtree, Ph.D.; Timothy Klietz, Ph.D.; Rebecca McDonald, Ph.D.; Cathy Petchel, M.A.

**Department Chair:** Elizabeth Bennett, Ph.D.

Psychologists study behavior from a wide range of perspectives that include social, clinical, physiological, developmental, organizational, and cognitive psychology. As a science, the psychology department employs empirical methods to learn about behavior and the variables that affect it. The department participates in a wide range of research and applied programs that intersect our discipline including [neuroscience](#); [human resource management](#); [forensic science](#); and [child development and education](#). Please see the relevant sections of the catalog for further information on these areas of study.

**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](#), [435](#), [447,465](#), [475](#), [485](#), or [495](#). In addition, majors must complete one 300-level psychology course plus two core courses from [PSY 225](#), [235](#), [245](#), [265](#), [275](#), [285](#) (or [NSC 210](#)), [292](#), [295](#), and [297](#). Students are also required to take [MTH 125](#) or [MTH 205](#) or [BIO/MTH 245](#). A student may not count both [PSY 285](#) and [NSC 210](#) toward the psychology major. 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 221](#).

**MINOR REQUIREMENTS:** All students must successfully complete a minimum of six courses in psychology including [PSY 101](#) and [102](#), and [215](#). Students must also complete any two core psychology courses from [PSY 225](#), [235](#), [245](#), [265](#), [275](#), [285](#) (or [NSC 210](#)), [292](#), [295](#), and [297](#). One additional PSY elective from the 200-level or above is also required. Students are also required to take [MTH 125](#) or [MTH 205](#) or [BIO/MTH 245](#). A student may not count both PSY 285 and NSC 210 toward the psychology minor. Please note that PSY 101 and PSY 215, must be completed

successfully at W&J.

#### **EMPHASIS IN HUMAN RESOURCES MANAGEMENT:**

Psychology majors have the option of completing an emphasis in Human Resource Management by completing specific courses as part of their Psychology major and additional courses in Economics and Business. To complete the emphasis, students would complete [PSY 295](#) and one of [PSY 225](#), [235](#) or [330](#). These courses may be completed as part of the requirements for the major. In addition, students would complete [ECN 101](#), [BUS 201](#), [319](#), and [350](#). Students interested in the human resource management emphasis are advised to contact Dr. Bennett of the Department of Psychology.

Students majoring in Child Development and Education may not major or minor in Psychology.

For students working to meet requirements of both Psychology and Neuroscience, i.e. majoring in one and minoring in the other, no more than 2 courses may be used to satisfy requirements for both programs. Students may not major in both Psychology and Neuroscience.

Psychology majors also minoring in forensic science can count no more than 3 courses from the forensic science minor toward their psychology major. Psychology minors also minoring in forensic science can count no more than 2 courses from the forensic science minor toward their psychology minor.

**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. PSY 101 must be completed at W&J. 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.

#### **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.

#### **Prerequisites**

PSY 101 is a prerequisite for PSY 102

### **PSY115 - Psychological Science**

This laboratory course in psychology is intended for non-majors and the course material is dedicated to generating an understanding of the scientific method and the ways that it can be used to ask questions about the natural world, which includes

the behavior of humans and other animals. The course introduces students to the empirical methods used to study behavior and mental processes (e.g. sensation, perception, learning, memory). These psychological phenomena are used in the laboratory as a means to explore specific scientific concepts.

#### **Prerequisites**

None

### **PSY203 - 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

### **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 125 or MTH 205 or BIO/MTH 245

### **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, interpersonal attraction, and group dynamics will be examined.

#### **Prerequisites**

PSY 101 and 102

### **PSY226 - 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

### 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. In addition, the biological components associated with developing personality, and disordered personality will be explored.

### Prerequisites

PSY 101 and 102

### PSY245 - Abnormal Psychology

This course studies the principal forms of mental and behavioral disorders with an emphasis on their causes, symptoms, course, prognosis and treatment. An integrated approach, examining neurological/biological, psychological and socio-environmentally factors is employed.

### Prerequisites

PSY 101 and 102

### PSY247 - Topics in Psychology

This course is an introductory study or survey of a contemporary area of psychology that is not currently represented in the department's curriculum. The course can be retaken for credit when the topics are different.

### 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

### PSY270 - Sensation and Perception

This course is an introduction to the five basic senses -- touch, smell, taste, hearing, and vision. One 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 other 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

### 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; and problem-solving and decision making. 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

### PSY292 - Health Psychology

Health is experienced within a broad biopsychosocial context. Physical states affect mental states and mental states can and do influence the course of both health and illness. This course investigates the relationship that exists between physical and mental health. Emphasis is placed on the role that physiological, psychological and social factors play in both health promotion and a person's vulnerability to illness. We will examine stress and stress management techniques, the role of diversity in health-related behavior and the cascading factors that ultimately enhance or diminish health.

### Prerequisites

PSY 101 and PSY 102

### PSY295 - Industrial-Organizational Psychology

This course examines psychological principles as they apply to industrial and business enterprises. Such areas as selection and placement, assessment and performance, leadership, satisfaction, motivation, training, teamwork, and legal issues will be considered.

### Prerequisites

PSY 101 and 102

### PSY297 - Evolutionary Psychology

Although deaths due to car accidents are more common than deaths due to snake bites, people tend to be more afraid of snakes than cars. Have you ever wondered why? This course

will explore such issues and many more by drawing from an evolutionary theoretical lens, which suggests that adaptive problems faced across human evolutionary history have not only shaped human physical traits, but have also shaped human psychology. Evolutionary Psychology incorporates perspectives from psychology, behavioral ecology, biology, neuroscience, and anthropology to gain a better understanding of human behavior. Knowledge gained from this approach has extensive implications for a variety of fields, ranging from medicine to economics. Here, students will develop a strong foundation in the growing field of Evolutionary Psychology, learn about empirical research in this area, and be encouraged to apply their knowledge to real-world phenomenon.

### Prerequisites

PSY 101 and PSY 102

## **PSY311 - History and Systems in Psychology**

This course examines the influence of philosophical antecedents, early scientific contributors, and major learning theorists on 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

## **PSY315 - Guided Research in Psychology**

(1-credit course)

This course is designed to provide students with hands-on experience with current research topics in experimental psychology. Any one offering will be restricted to a specific area of research narrowly focused in the field of psychology. The topic will vary depending on the faculty member offering the course. Activities may include literature reviews, drafting IRB protocols, collecting data, analyzing data, writing up the results, and developing grant proposals.

### Prerequisites

Approval of the instructor

## **PSY321 - Psychology and the Environment**

Students will focus on the relationship of our behavior and experiences with 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

## **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

## **PSY340 - 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

## **PSY345 - Criminal Psychopathology**

This course will focus on the criminal mind and behavior with a particular emphasis on an integrated triad of factors: biological-neurological-genetic, psychological, and socio-environmental underpinnings. Theoretical views and evidence-based research on criminality will be presented. Specific case studies will be explored in depth with attention to profile information. International data will be included.

### Prerequisites

PSY 101, PSY 102 and PSY 245

## **PSY347 - Special Topics in Psychology**

This seminar emphasizes contemporary theories and issues in psychology and related areas.

### Prerequisites

PSY 101 and 102, and any 200-level PSY course

## **PSY361 - Adulthood & Aging**

This course will highlight selected concepts, theory, and research in adult psychological development. Topics include identity development, physical aging, marriage, and retirement. Students will attend scheduled weekly class meetings, which include lecture and discussion. Additionally, students will complete a service-learning project in partnership with a local senior care center. Pending the COVID protocols of the assisted living facility in January 2021, this project may require weekly visits or meetings with residents and/or staff of a local senior center. These visits or meetings would occur outside of regular class time and be arranged based on the schedule of each student and participating senior center residents and/or staff. Senior

center is approximately 1.25 miles walking/driving distance of campus.

### Prerequisites

None

### 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.

### Prerequisites

PSY 101, PSY 102, and a 200-level PSY course OR PSY 100, GWS 100, and permission of the instructor

### 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.

### Prerequisites

PSY 101 and 102, and any 200-level PSY course

### PSY393 - Psychology of Public Policy

The study of human behavior does not stop at the end of a questionnaire. It is found in the incentives to sign up for healthcare; the educational, long-term benefits of Head Start; and regulations over discrimination due to facial recognition technology. In this course, we will examine major public policy issues in the context of psychological research and advocacy. Drawing from a diverse body of research - from psychology, sociology, policy, legal scholarship, and more, we will try and grapple with two main questions: (1) Where does psychology fit

into 'the real world', and (2) How can we inform both policymakers and the public about scientific findings? By the end of the course, you will be able to critically analyze existing policy and gain expertise in a specific policy, bringing a recommendation for new policy in an area that matters to you.

### Prerequisites

PSY 101, PSY 102, and either one 200 level PSY or permission of the instructor.

### PSY399 - Psychology Practicum

This course combines classroom work with supervised field experience in some approved areas of human behavior. Areas may include institutional work, school psychology, special education, etc. Field experiences are typically in mental health agencies but may include other settings.

### Prerequisites

PSY 101 & 102; Junior or Senior standing and approval of the instructor

### 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 experiments 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*

### Prerequisites

PSY 215 and a 300-level Psychology course

### 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 we think about, are influenced by, and relate to other people. 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*

### Prerequisites

PSY 215 and a 300-level Psychology course

### 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*

### Prerequisites

PSY 215 and a 300-level Psychology course

## **PSY435 - Advanced Laboratory in Personality Psychology**

This course examines the application of the scientific method to the study of topics in the field of personality psychology, with an emphasis on trait theories and their accompanying measurement scales. Students will learn about both content- and methodologically-based issues encountered in personality research and gain experience in searching for, reading, and discussing empirical work in the field. Students will demonstrate their overall proficiency by conducting a semester-long research project that will be presented in oral-, written-, and poster-format at the end of the semester.

### Prerequisites

PSY 215

## **PSY447 - Advanced Laboratory in Psychology: Topics Course**

This course examines the application of the scientific method to the study of a topic in the field of psychology with an emphasis on the methods used to conduct research in this area. Students will learn about both content- and methodologically based issues encountered in research in this area and gain experience in searching for, reading, and discussing empirical work in the field. Students will demonstrate their overall proficiency by conducting a semester-long research project that will be presented in oral or written form and as a poster at the end-of-the-semester poster session.

### Prerequisites

PSY 215 and a 300-level Psychology course

## **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.

### Prerequisites

PSY 215 and a 300-level Psychology course

## **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) 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 poster session.

*Three hours lecture-recitation, three hours lab*

### Prerequisites

PSY 215 and a 300-level Psychology course

## **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*

### Prerequisites

PSY 215 and a 300-level PSY course or NSC 300 and permission of the instructor

## **PSY495 - Advanced Laboratory in Industrial/Organizational Psychology**

This course examines the application of the scientific method to the study of topics in the field of Industrial/Organizational psychology, with an emphasis on the domains of personality and individual differences. Students will learn about both content- and methodologically-based issues encountered in I/O research and gain experience in searching for, reading, and discussing empirical work in the field. Students will demonstrate their overall proficiency by conducting a semester-long research project that will be presented in oral-, written-, and poster-format at the end of the semester.

### Prerequisites

PSY 215 and a 300-level Psychology course

## **PSY499 - Advanced Psychology Practicum**

This course combines a supervised research project with a supervised field experience in some approved areas of human behavior. Areas may include institutional work, school psychology, special education, etc. Field experiences are typically in mental health agencies but may include other settings.

### Prerequisites

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 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

None

## PUBLIC POLICY

Classifications: Major, Minor

**Steering Committee:** Danielle Ficco, Ph.D.; John Krol, Ph.D.; Stuart Miller, Ph.D.; Mary Ryan, Ph.D.; Corey Young, DPA

**Faculty:** Mary Ryan, Ph.D.

**Department Chair:** Mary Ryan, Ph.D.

The major and minor in Public Policy are offered through the Public Service and Community Studies department.

The Public Policy program aims to provide analytical tools and substantive knowledge to help students understand and analyze complex policy issues in today's world. It offers a rigorous curriculum that provides a good knowledge base on the economy, government, and public policy and basic analytical and methodological training in policy analysis. It also offers considerable opportunities for students to emphasize a particular policy area with a required internship. The program provides excellent preparation for careers in public service and the non-profit sector and for graduate school in public policy and public administration. The Public Policy program offers a major and a minor in Public Policy. The major will focus on one of four areas: Environmental Policy; Law and Policy; Public Administration; and US Policy.

**MAJOR REQUIREMENTS:** The Public Policy major requires successful completion of a total of 11 courses to be distributed as follows:

- three introductory courses: [ECN 102](#), [POL 111](#), and [PPL 213](#);
- one statistics course: [MTH 125](#);
- one research method course: [POL 340](#);
- one ethics course (choose one): [PHL 135](#); [PHL 231](#); [POL 342](#);

- three courses with a specific public policy focus:

*Environmental Policy:* [ECN 391](#); [EVS 201](#); [EVS 315](#); [PPL 313](#); [PPL 317](#); [PPL 319](#); [PPL 350](#) (with topic approval from the PPL director)

*Law and Policy:* [POL 315](#); [POL 411](#); [POL 412](#); [ECN 319](#); [PPL 350](#) (with topic approval from the PPL director)

*Public Administration:* [POL 310](#); [ACC 211](#); [BUS 301](#); [ECN 322](#); [PPL 350](#) (with topic approval from the PPL director)

*US Policy:* [ECN 309](#); [POL 210](#); [POL 302](#); [POL 310](#); [PPL 313](#); [POL 315](#); [PPL 319](#); [PPL 350](#) (with topic approval from the PPL director)

- one internship: field-specific internship experience to be taken prior to or concurrently with [PPL 360](#). Internship must be pre-approved by PPL director
- internship colloquium: [PPL 360](#) *Public Policy Internship Experience and Colloquium*
- one capstone course: [PPL 400](#) *Policy Analysis Seminar*

**MINOR REQUIREMENTS:** The Public Policy minor requires successful completion of the following six courses: [POL 111](#); [PPL 213](#); [MTH 125](#) or [POL 340](#); [PPL 400](#); and any two policy courses from the following: [POL 210](#); [POL 302](#); [POL 310](#); [PPL 313](#); [POL 315](#); [PPL 317](#); [PPL 319](#); [PPL 350](#).

**Note:** Students majoring in Political Science may not also major in Public Policy. Students majoring in Political Science may minor in Public Policy with a limit of two courses counting toward both courses of study.

## PPL213 - 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. Major areas of U.S. policy will be covered including social welfare policy, healthcare policy, economic policy, and foreign policy. Throughout the course, students will investigate specific policies in these areas using case studies.

### Prerequisites

None

## PPL300 - Global Ethics

Global ethics is an examination of ethical issues in public policy in an international context. Application of the principles of moral theory to such issues as the obligations of richer nations toward poorer ones, cultural and other forms of relativism, care ethics, artificial intelligence, nationalism, war, deterrence, intervention, environmental degradation, preservation of natural diversity, and responsibilities toward future generations.

### Prerequisites

PPL 213

## PPL313 - U.S. Environmental Policy

This is a survey course that includes both the basic study of public policy and an introduction to a wide variety of environmental problems, policies and regulations. The study

of public policy includes coverage of both the standard policy process model and the advocacy coalition framework (ACF) approach that is dominant in environmental policy studies. Topics covered include a history of environmental policy and the major waves of policy development, regulatory approaches, and the conflict between environmental policy and natural resource policy. Environmental policy areas covered include water, air, toxics, waste and hazardous materials, land use and conservation, and a special investigation of energy policy and climate change.

### Prerequisites

One PPL or POL course, or EVS 100

### PPL317 - Global Resource Politics and Policy

This is an advanced course that investigates the global distribution, use, and quality of environmental/ natural resources. This course seeks to integrate theories of International and Comparative Politics, Environmental Policy, Economics, and Global Health. The course will cover a selection of high priority and complex international resource debates including: the trade in humans, diamonds, oil, minerals, illegal drugs, hazardous waste, coffee, and exotic species.

### Prerequisites

Two PPL or POL courses

### PPL319 - Regulatory Policy

This is an advanced course designed to introduce students to many facets of regulatory policy and law. The course will cover a broad set of areas from financial regulation, to air and water protection, to consumer products and utility regulation. The course seeks to facilitate student understanding of the regulatory environment and policy through the investigation of several broad questions: Why should we regulate? On what grounds does government derive the authority to regulate? How does the political process influence regulatory decision? And how do we develop and enforce effective regulations?

### Prerequisites

Two PPL or POL courses

### PPL350 - Special Topics in Public Policy

This course is a study of a selected sub-field, sub-topic, problem, issue, or case in public policy.

### Prerequisites

PPL 213 or POL 111, and any others dependent on the topics covered, or as decided by the course instructor

### PPL360 - Public Policy Internship Experience and Colloquium

This course is designed to merge the study of policy with hands-on educational experiences in public service. It is designed to integrate the lessons from student internship experiences, as a supplement to traditional classroom work, into the PPL curriculum. This integration provides opportunities for students to garner a deeper understanding of the field of public policy as it relates to public service and public organizations in

their respective areas of emphasis. Through weekly colloquia meetings, students are provided with unique opportunities to gain substantive and practical knowledge as to the inner workings of government and non-profit policy work. By providing a structured discussion forum for the sharing and application of hands-on experiences, students can learn from their peer's experiences and also draw greater value from their own field experience.

### Prerequisites

ECN 102, POL 111, and PPL 213; and completion of (or concurrent engagement in) approved internship experience

### PPL400 - Policy Analysis Seminar

This course consists of a seminar in policy analysis and program evaluation and a guided policy research project that is the culminating experience for both majors and minors in the Public Policy program (PPL). The course focuses on student's ability to assess a public policy or program—consistent with their career trajectory—for effectiveness, efficiency, feasibility, economy, etc. The research effort will culminate in a professional quality analysis and policy brief presented in written and oral form. The student is co-advised by the director of the PPL program, another chosen faculty member, and/or a professional in the student's area of research approved by the director of the PPL program.

### Prerequisites

POL 111, PPL 213, MTH 125 or POL 340, and one elective course from the student's emphasis

## PUBLIC RELATIONS

Classifications: Major Emphasis

**Department Chair:** Karin Maresh, Ph.D.

The emphasis in Public Relations is available to [Communication Arts](#) majors. It is intended to provide skills for graduate study or participation in the enterprise defined by the Public Relations Society of America as "a strategic communication process that builds mutually beneficial relationships between organizations and their publics." Coursework in this emphasis includes training in the creation and assessment of oral, written, and visual messages; as well as exposure to theoretical knowledge of rhetorical principles foundational to building individual, organizational, and public relationships.

**COMMUNICATION ARTS MAJOR WITH A PUBLIC RELATIONS EMPHASIS REQUIREMENTS:** A communication arts major with an emphasis in public relations requires 10 courses total. [COM 101](#); [COM 102](#); [COM 103](#); [COM 221](#); [COM 281](#); one 200-level COM elective which may include [COM 242](#) (must be taken four times to count as one four-credit course), [COM 252](#) (must be taken four times to count as one four-credit course), [CIS 245](#), [CIS 265](#), [CIS 271](#) or [CIS 275](#) (only one CIS course may count toward major); [COM 301](#); [COM 381](#); [COM 382](#); [COM 401](#).

The Department of Communication Arts offers credit and non-credit opportunities for creative expression to all W&J students. One-credit practicums in theatre ([COM252](#)) and radio ([COM242](#)) are available each semester, and each course may be taken up to

four times.

The department stages a theatrical production each semester, with auditions held early in the term. Auditions are open to all W&J students. For more information about getting involved with theatre productions, contact the department chair or join the W&J Student Theatre Company.

Participation in the WNJR radio station is also available to all W&J students. After a meeting with Dr. Nick Maradin (WNJR General Manager) and completion of brief written and hands-on tests, a student can host a radio show either alone or with a co-host. For more information about WNJR visit [wnjr.org](http://wnjr.org) and contact Dr. Maradin.

## PUBLIC SERVICE AND COMMUNITY STUDIES

Classifications: Major, Minor

**Faculty:** Danielle Ficco, Ph.D.; John Krol, Ph.D.; Stuart Miller, Ph.D.; Mary Ryan, Ph.D.; Corey Young, DPA

**Department Chair:** Mary Ryan, Ph.D.

The Public Service and Community Studies department offers majors and minors in both [Public Policy](#) and [Sociology](#).

The department's mission is to prepare students to make substantive contributions to society through careers as organizers, managers, advisors, and policy analysts in government and nonprofit organizations. This mission is accomplished through dedication to quality teaching that builds skills and commitments to the core values, challenges, and rewards of public service and community affairs. It is supported through empirical and applied research on timely issues of public management; international, regional, and urban affairs; social issues; and policy making. Courses address complex social, structural, and environmental factors in public policy and society. The mission stresses the importance of democratic responsibilities and personal integrity in the management of human services and civic engagement as well as the professional qualifications required for social change work. Students gain skills in political, social, economic, and historical research and analysis, communication, and problem-solving. Internships and leadership roles on campus and in the broader community help prepare students to gain the knowledge and experience they need to become leaders in their field. Ultimately, the department emphasizes the importance of learning the skills necessary to conduct systematic, rigorous research to help address enduring problems in society by helping students identify meaningful ways to help others.

## RELIGIOUS STUDIES

Classifications: Minor

**Faculty:** Cynthia Hogan, Ph.D.; Olga Solovieva, Ph.D.

**Program Directors:** Olga Solovieva, Ph.D.

**Department Chair:** Gregg Osborne, Ph.D.

The mission of the Religious Studies program is to acquaint students with the roles played by religion in human society and life. By helping students acquire an appreciative knowledge of diverse religious traditions and cultural worldviews, Religious Studies courses prepare them to become informed, reflective, and responsible professionals and global citizens.

The courses in the minor introduce students to a wide range of disciplinary perspectives, including history, philosophy, literary studies, social sciences, and gender studies. In this way, the Religious Studies curriculum provides an intellectual arena for exploring the fascinatingly complex world of religion in ways that are directly relevant to students' academic, personal and professional interests. The broad liberal arts education and critical thinking and communications skills that students acquire by completing the Religious Studies minor will prepare them for careers in education, health care, social work, politics, international business and affairs, ministry, and law.

**MINOR REQUIREMENTS:** The minor consists of five courses, including at least one of the foundational courses ([REL 101](#), [102](#), [104](#), [105](#), or [106](#)). One course or more must be from the advanced (300) level; and at least one course must be a comparative Religious Studies course or have a primary focus on non-Judeo-Christian religious traditions ([REL 104](#), [106](#), [205](#), [207](#), [208](#), [215](#), [217](#), [237](#), [274](#), [307](#); [ILS 301](#)). Courses from other departments applicable to the minor include [ARH 101](#) or [102](#), [ENG 226](#), [ENG 255/355](#) (*Holocaust Literature*), [HIS 302](#), [PHL 145](#), [PHL 201](#); additional Special Topics courses from multiple departments are available each semester. With the director's prior approval, an independent study or internship may be substituted for one of the elective courses.

### REL101 - Introduction to Religious Studies

This course introduces students to the study of religion as an important dimension of human life and culture. By looking at a variety of sources (writings, film, ritual, visual art), students will explore how religious imagination operates within particular cultural and historical contexts as to formulate, and practically engage with, the ultimate questions of human existence. Topics will include the nature and characteristics of religious texts and language; types and functions of ritual practices; religious significance of sacred space and land; the role of visual images in conveying the ultimate realities and meanings; and social, political, and cultural implications of religion and religious diversity.

#### Prerequisites

None

### REL102 - Religion in America

This course offers an inclusive survey of religion in America, from religious groups in the pre-colonial era through the ongoing changes to the American religious and cultural landscape stemming from contemporary immigration patterns. Students

will be introduced to the contributions made by women, minority communities, and non-Christian religious groups as they focus on the ways that religion both influences and challenges American values, past and present.

### Prerequisites

None

## REL104 - World Religions

The image of a "global village" has become a standard description of the ever-smaller world in which we live today, pointing to our economic, ecological, political and cultural interdependence. In religious terms, this means that we encounter new, once unfamiliar traditions with greater frequency and in more direct ways than before. This course offers an introductory overview of several religious traditions (American indigenous religions, Buddhism, Hinduism, Judaism and Islam) in their original historical context as well as their contemporary cultural manifestations. By looking at both scholarly accounts and writings by the adherents of these religions, we will explore the fundamental teachings, practices, ideas and values of each tradition, as well as some of the critical issues that these traditions face today.

### Prerequisites

None

## REL105 - 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.

### Prerequisites

None

## REL106 - Eastern Religious Traditions

This course offers an introductory overview of several major religious traditions of the East, both in their original historical contexts and in their current cultural manifestations. By looking at scholarly accounts as well as writings of the adherents of these religions, students will explore the fundamental teachings, practices, ideas, texts, and ethical values of each tradition. Students will also attempt to understand some of the critical challenges that these traditions face today and their contributions to contemporary culture and society, both in Asia and in the West.

### Prerequisites

None

## 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.

### Prerequisites

None

## REL145 - Faith and Reason

This course explores arguments for and against the existence of God, the problem of suffering and evil, the relation of reason to faith, the evidential basis of some specific claims in the Bible, and other philosophical issues related to religious belief. This course is the same as PHL 145.

### Prerequisites

None

## REL201 - The Hebrew Bible in Context

A historical introduction to the Hebrew Bible (Christian Old Testament) that acquaints students with the methods of biblical criticism, surveys the biblical literature, and contextually situates the Hebrew Bible in the history, literature, and culture of the ancient Near East. Students will read the books of the Hebrew Bible critically as an anthology of texts written, edited, and compiled over time to explore the development of the Bible's main theological, literary, and cultural themes.

### Prerequisites

None

## REL202 - The New Testament in Context

A historical introduction to the New Testament that situates its books in their various social, cultural, and historical contexts in the first and early centuries of the Common Era. The New Testament will be read as an anthology of texts written, edited, and compiled over time by different authors seeking to interpret the life and teachings of Jesus of Nazareth. In the process, students will consider how the methods of textual criticism, historical analysis, and archaeology inform our understandings of the New Testament and other early Christian writings.

### Prerequisites

None

## REL203 - Introduction to Judaism

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.

### Prerequisites

None

## REL204 - Introduction to Christianity

Students will explore the rise of various expressions of Christianity within the political, social, religious, and cultural contexts of ancient Judaism and the larger Roman Empire. As students consider the foundations of Christian traditions through historical methodologies, they also explore how those traditions are imagined, recycled, propagated, and challenged in a variety of historical and social contexts including contemporary settings.

### Prerequisites

None

## REL205 - Introduction to Islam

This course provides a historical and thematic introduction to Islam, one of the largest and rapidly growing religions in the world. The key topics to be examined in the course include major beliefs and ritual practices of Islam; the life of Muhammad and the formation of Muslim community in its historical context; the sacred texts of Islam; some of the key aspects and modalities of Islamic tradition (law, social customs and cultural practices, Islamic mysticism, etc.); the roles and experiences of Muslim women; and various issues and trends in contemporary Islam.

### Prerequisites

None

## REL207 - Introduction to Buddhism

This course provides a general overview of Buddhism as it developed across 2500 years within diverse socio-cultural contexts. After starting the course with a basic thematic and historical introduction, we will proceed to look at a wide range of Buddhist religious texts, ethical and philosophical teachings, and meditative techniques, including those of Theravada, Mahayana, Zen and Tibetan Tantric traditions. We also will be raising questions about Buddhism's role in the contemporary world, both in traditional Buddhist countries and in the West. To answer these questions, we will read the writings by prominent activists and thinkers of the "socially engaged" Buddhism, look at the connections between Buddhism and modern ethics, psychology, and spiritual practice, and attend to the Buddhist analysis of the predicaments of contemporary society.

### Prerequisites

None

## REL208 - Adventures in Spirituality

How do you understand spirituality? Does it have a history? How do mystical experiences and metaphysical traditions relate to spirituality and religion? This course addresses these

questions by offering an introduction to the spiritual, mystical, and metaphysical traditions and practices within religions using the historical and comparative approaches to explore the human impulse toward the spiritual.

### Prerequisites

None

## REL210 - Topics in Biblical Studies

A study of a selected topic in Biblical Studies.

### Prerequisites

None

## REL215 - Religion and Film

This course focuses on the ways in which diverse religious questions and perspectives are mediated, interpreted, and challenged in contemporary popular film. The themes explored may include representations of real-life religious teachings, practices, and institutions; filmic constructions of gender, sexuality, social status, and religious identity; cinematographic interpretations of theological and ethical ideas, and the place of religion in today's society.

### Prerequisites

One REL course; or one course from COM 102, COM 261, or COM 361; or permission of instructor

## REL217 - Death and Immortality

Death is both a basic and universal fact of our existence (we're born, we live, we die—we all do that!) and one of the most awesome and mind-boggling mysteries we human beings have to face. Throughout human history people have developed many ways in which they deal with the reality of death and also strive to go beyond its limits. In this course we will focus on the religious imagination of death and its transcendence. By looking at the stories, symbols, rituals and doctrines of several religious traditions (Buddhism, Christianity, Islam, Mesoamerican religions, etc.) we will explore diverse and fascinating ways of understanding death and the experience of dying, and of imagining the realms beyond this life. We'll also see how these perspectives are integrally related to the particular religions' cosmologies, theological reflections, and visions of human nature and morality—in other words, how our way of dying is a part of our way of living, inviting us to come to terms with who we are and to imagine what we could become.

### Prerequisites

None

## REL232 - Sociology of Religion

This course is a study of religion as a social institution, including elements of 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, and to monasticism as a way of organizing religious experience. This course is the same as SOC 232.

### Prerequisites

None

### REL247 - Topics in Religious Studies

A study of a selected topic in Religious Studies.

### Prerequisites

None

### REL274 - Religion, the Body, and Sexuality

Is our body a temple of God, a sacred mandala channeling the energies of bliss and wisdom—or is it an impure vessel, a dangerous beast out of control, a prison for the soul? Are female bodies less conducive to spiritual attainments, or are they the most perfect images of the divine realities? Would having sex diminish your spiritual powers and religious standing or enhance them? If you're looking for answers in the history of religion, the answer to all these questions is "YES!" Throughout human history religious traditions imagined, represented, and utilized human embodiment and sexuality in a variety of ways. In this course we will examine some of these diverse constructions through the study of texts, visual art, and ritual practices of selected religious traditions such as Tantric Buddhism, Hinduism, Christianity, Islam, Graeco-Roman religions, and religions of the Aztecs and the Maya. The issues explored in this course include constructions of embodiment, sexuality and gender; theological and cosmological significance of human body; theories of erotic desire; relationship between sex and power; and transformative possibilities of sex and sexual renunciation.

### Prerequisites

One REL course; or a course affiliated with Gender and Women's Studies; or permission of instructor

### REL305 - Ancient Greek and Graeco-Roman Religions

This course is an examination of the varieties of religious expression found in Ancient Greek and Graeco-Roman societies. By looking at the material drawn from mythology, popular fiction, philosophical texts, sacred biographies, ritual, and drama, we will explore diverse perspectives on the cosmos, the nature of god(s) and one's relationship with the divine, the human self and its potentials and discontents, and other fundamental issues articulated in these ancient traditions.

### Prerequisites

One course in Religious Studies; or one 200- or 300-level course in English, History or Philosophy; or instructor's approval

### REL307 - Religion and Social Justice

This course is an exploration of the ways in which diverse religious traditions conceive of and practically respond to critical issues involved in the building of a just society, with a special focus on the 20th-21st centuries. The topics covered may include civil rights movements, peace initiatives, environmental issues, economic inequality, gender justice, and interfaith efforts towards building positive relationships across religious, racial, and ethnic lines.

### Prerequisites

One course in Religious Studies; or one 200- or 300-level course in English, History, Philosophy, Political Science, Public Policy, or Sociology; or instructor's approval

### 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.

### Prerequisites

None

### 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 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

None

## RESERVE OFFICERS' TRAINING CORPS (ROTC)

Classifications: Pre-Professional

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 (MSC 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 (MSC 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](mailto: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 pass/fail 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.

Physical Activity and Wellness Education: Counts for 1/4 course (1 credit) of Physical Activity (PHA) for students who successfully complete the course.

#### **Prerequisites**

None

### **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.

Physical Activity and Wellness Education: Counts for 1/4 course (1 credit) of Physical Activity (PHA) for students who successfully

complete the course.

#### **Prerequisites**

None

### **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.

Physical Activity and Wellness Education: Counts for 1/4 course (1 credit) of Physical Activity (PHA) for students who successfully complete the course.

#### **Prerequisites**

None

### **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.

Physical Activity and Wellness Education: Counts for 1/4 course (1 credit) of Physical Activity (PHA) for students who successfully complete the course.

#### **Prerequisites**

None

## 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.

Physical Activity and Wellness Education: Counts for 1/4 course (1 credit) of Physical Activity (PHA) for students who successfully complete the course.

### Prerequisites

None

## 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.

Physical Activity and Wellness Education: Counts for 1/4 course (1 credit) of Physical Activity (PHA) for students who successfully complete the course.

### Prerequisites

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.

Physical Activity and Wellness Education: Counts for 1/4 course (1 credit) of Physical Activity (PHA) for students who successfully complete the course.

### Prerequisites

MSC 302

## 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.

Physical Activity and Wellness Education: Counts for 1/4 course (1 credit) of Physical Activity (PHA) for students who successfully complete the course.

### Prerequisites

MSC 401

## RUSSIAN

Classifications: Other

**Faculty:** Susan Vdovichenko, Ph.D.

**Department Chair:** Katherine Ternes, Ph.D.

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 entering freshmen with prior experience in Russian will receive language placement by program faculty. This placement will determine their first course in the sequence. NOTE: Students who have completed coursework at one level may not take courses at a lower level without departmental approval.

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

approval.

### RUS105 - Elementary Russian I

Fundamentals of grammar; regular review of the essentials; study of prose texts related to the grammar and vocabulary of each unit.

#### Prerequisites

RUS 105, or permission of the instructor, is a prerequisite for RUS 106

### RUS106 - Elementary Russian II

Fundamentals of grammar; regular review of the essentials; study of prose texts related to the grammar and vocabulary of each unit.

#### Prerequisites

RUS 105, or permission of the instructor, is a prerequisite for RUS 106

### RUS207 - Intermediate Russian I

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

### RUS208 - Intermediate Russian 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

### RUS257 - Masterpieces of Russian Literature in Translation

This is a course in reading and interpreting Russian literature in context. Students read and gain an appreciation of texts from a variety of genres and historical periods. The topic, such as a survey of Russian literature, 19th-century Russian literature, or the modern Russian novel, varies from year to year and will be published in the preregistration bulletin. This course is cross-listed as English 255 and counts towards the English major and minor.

#### Prerequisites

None

## RUS309 - Advanced Russian I

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

## RUS310 - Advanced Russian 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 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

None

## RUSSIAN STUDIES

Classifications: Minor

**Steering Committee:** Judith Atzler, Ph.D.; Ye Han, Ph.D.; Susan Vdovichenko, Ph.D.

**Program Directors:** Ye Han, Ph.D.

The Russian Studies minor is a five-course interdisciplinary program of study in the liberal arts that allows students to

explore Russian-speaking regions of the world through courses in language, humanities, and social sciences. Through this themed, breadth-of-study minor, students develop the skills, knowledge, and qualities necessary to communicate and interact in culturally appropriate ways with speakers of the critical world language of Russian, more fully understand the literature, history, and politics of the Russian-speaking world, and become more global citizens. The specific courses comprising the Russian Studies minor provide skills and knowledge in Russian language, history, and culture.

**MINOR REQUIREMENTS:** The Russian Studies minor consists of five courses with requirements varying according to entry level. All entering first-year and transfer students in Russian will receive language placement by Russian program faculty. Students with very limited or no background in Russian will begin their studies with [RUS 105](#) or [RUS 106](#).

- Students who start in RUS 105 need to take RUS 105, 106, and [207](#) plus two courses from the following list: [RUS 208, 309; HIS 130, 131, 320, 321, 324; HIS 270, 315, 370](#) when taught with emphasis on Russia; [RUS 257/ENG 255](#); and [GER 235](#).
- Students who start in RUS 106 need to take RUS 106, 207, and 208 plus two courses from the following list: [RUS 309, 310; HIS 130, 131, 320, 321, 324; HIS 270, 315, 370](#) when taught with emphasis on Russia; [RUS 257/ENG 255](#); and [GER 235](#).
- Students who start in RUS 207 need to take RUS 207, 208, and 309 plus two courses from the following list: [RUS 310; HIS 130, 131, 320, 321, 324; HIS 270, 315, 370](#) when taught with emphasis on Russia; [RUS 257/ENG 255](#); and [GER 235](#).
- Students who start in RUS 208 need to take RUS 208, 309 and 310 plus two courses from the following list: [HIS 130, 131, 320, 321, 324; HIS 270, 315, 370](#) when taught with emphasis on Russia; [RUS 257/ENG 255](#); and [GER 235](#).

Students who start in RUS 309 or above should contact the program coordinator to discuss options for pursuing the Russian Studies Minor.

For other possible elective courses, contact the program coordinator. In addition, courses taken in a study abroad program, like the approved program in St. Petersburg, Russia, may also count towards the minor if pre-approved by the program coordinator.

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

## SCIENTIFIC FOUNDATIONS

Classifications: Minor

**Steering Committee:** Danielle Ficco, Ph.D.; Mark Harris, Ph.D.; Anupama Shanmuganathan, Ph.D.; Kelly Weixel, Ph.D.; Michael

Wolf, Ph.D.

**Program Directors:** Mark Harris, Ph.D.

The Scientific Foundations minor focuses on the processes and outcomes of scientific inquiry, including specific content knowledge of multiple scientific fields. It is particularly appropriate for those beginning or completing pre-health studies who are majoring in a field outside of specific science disciplines.

**SCIENTIFIC FOUNDATIONS MINOR REQUIREMENTS:** [PHL 225](#); [MTH 125](#), [MTH 151](#), or [MTH 152](#); and four courses from the following with no more than two from the same department: [BIO 111](#); [BIO 121](#); [BIO 131](#); [CHM 160](#); [CHM 170](#); [CHM 260](#); [EVS 101](#); [PHY 101](#) or [PHY 107](#); [PHY 102](#) or [PHY 108](#); [PSY 101](#). This minor is not available to students majoring in Biochemistry, Biology, Chemistry, Environmental Science, Neuroscience, or Physics.

## SOCIAL JUSTICE STUDIES

Classifications: Minor

**Steering Committee:** Kevin Carriere, M.P.P., Ph.D.; Jason Kilgore, Ph.D.; Gregg Osborne, Ph.D.; Mary Ryan, Ph.D.; Olga Solovieva, Ph.D.

**Program Directors:** Jason Kilgore, Ph.D.; Olga Solovieva, Ph.D.

The Social Justice Studies (SJS) minor provides students with opportunities to develop a knowledge framework and skills necessary to participate in the building of a more just society. By introducing students to diverse social justice issues through the lens of multiple disciplinary perspectives and by providing opportunities for experiential learning, the SJS minor will help students become active contributors to positive social change. By doing so, the program supports the W&J mission to graduate informed and responsible citizens of local, national, and global communities.

**SOCIAL JUSTICE STUDIES MINOR REQUIREMENTS:** The SJS minor consists of five courses (20 credits total) that must be taken from at least three different disciplines (i.e., three different course prefixes). All students must take at least one course from the Core Courses group. Two JayTerm courses or a credit-bearing internship or independent study may be substituted for one of the elective courses, with program coordinator's approval. Each student must complete an experiential learning project requirement, which could be satisfied by an independent study, internship, research project, or course with a substantial experiential component, with prior approval from the program coordinator.

Core Courses: At least one from [PHL 130](#), [PHL 135](#), [PHL 235](#), [PPL 300](#), [REL 307](#)

Electives: [BUS 201](#), [COM 201](#), [CRS 101](#), [CRS 247](#), [CRS 310](#), [ECN 326](#), [ECN 391](#), [ECN 398](#), [ENG 224](#), [ENG 270](#), [ENG 343](#), [EVS 100](#), [EVS 130](#), [EVS 201](#), [EVS 315](#), [GWS 100](#), [GWS 210](#), [GWS 300](#), [HIS 216](#), [HIS 260/261](#), [HIS 275](#), [HIS 333](#), [HIS 336](#), [HIS 337](#), [ILS 301](#), [LAS 201](#), [PHL 137](#), [PHL 231](#), [PHL 232](#), [PHL 236](#), [POL 120](#), [POL 320](#), [POL 322](#), [POL 412](#), [PPL 213](#), [PPL 313](#), [PPL 317](#), [PSY 393](#), [REL 102](#), [REL 104](#), [REL 237](#), [REL 274](#), [SOC 223](#), [SOC 302](#), [SOC 323](#), [SOC 336](#), [SOC](#)

[240](#), [SOC 241](#), [SOC 262](#)

Core and elective courses may be taken in any order, although some may have prerequisites. Consideration of special topics courses as an elective and identification of the experiential learning project must be reviewed and approved ahead of time by the program coordinator. Each student will complete a short interview with the program coordinator following their experiential learning project.

The SJS minor is available to students in any major. At least three courses in this minor must be unique to the minor and not be used to satisfy the requirements of any other major or minor.

## SOCIOLOGY

Classifications: Major, Minor

**Steering Committee:** Danielle Ficco, Ph.D.; John Krol, Ph.D.; Stuart Miller, Ph.D.; Mary Ryan, Ph.D.; Corey Young, DPA

**Faculty:** Danielle Ficco, Ph.D.; John Krol, Ph.D.; Stuart Miller, Ph.D.; Corey Young, DPA

**Program Directors:** John Krol, Ph.D.

**Department Chair:** Mary Ryan, Ph.D.

The Sociology major and minor are offered through the Public Service and Community Studies department.

Sociology analyzes social and cultural issues on both the macro and micro levels and facilitates the exploration of the reciprocal nature of the individual and society. This better equips sociology majors to understand and shape the world in which they live as they pursue successful careers, active citizenship, and social responsibility.

[SOC101](#) provides a set of foundational concepts; 200-level courses give students an introduction to various sociological areas, and 300-level courses explore a particular area in great depth. A student must have SOC 101 or one 200-level course before taking a 300-level course.

**MAJOR REQUIREMENTS:** Majors are required to successfully complete nine sociology courses and [MTH 125](#). The following core courses for the major must be taken, in any order, before [SOC 495 Senior Seminar](#): [SOC 101](#), [SOC 200](#), [SOC 201](#), [SOC 301](#), [SOC 314](#), and [MTH 125](#). In addition, the major requires one SOC 200-level elective and two SOC 300-level electives. All core courses required for the major, except [SOC 101](#) and [MTH 125](#), must be taken at Washington & Jefferson College.

**MINOR REQUIREMENTS:** Minors are required to complete [SOC 101](#), [SOC 200](#), [SOC 201](#) and three additional courses, at least two of which must be at the 300-level.

### SOC101 - Introduction to Sociology

This course provides students with an overview of sociological theory and methods and basic macro-and micro-sociological views. Culture, institutions, socialization, social structure, groups, inequality, deviance, and social change are key terms that are emphasized. The course acts as the gateway for all other sociology courses.

*Required for the major and minor.*

### Prerequisites

None

### **SOC148 - Special Topics**

A study of sociological issues relating to some area of current sociological interest in the world today.

### Prerequisites

None

### **SOC200 - Research and Writing**

This course examines the techniques needed to produce good sociological work. Such work requires seeking out materials appropriate for sociological investigations, keeping track of the information that is found, organizing and reducing the volume of information found, properly citing sources, and structuring arguments.

*Required for the major and minor*

### Prerequisites

None

### **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 up to 1930. During this time period a basic understanding of the discipline of sociology is established.

*Required for the major and minor*

### Prerequisites

None

### **SOC220 - Social Problems**

This course provides students with the opportunity to consider social problems in terms of a variety of opinions surrounding their causes and solutions. Social science perspectives that provide a framework for a better understanding of social problems are a chief focus of the course. Ideological forces involved in creating, defining, and attempting to solve social problems are also considered.

### Prerequisites

None

### **SOC222 - Sociology of Health and Illness**

(1/2 course)

Medical sociology, one of the largest subfields of sociology, is good preparation for a wide range of careers in health, including medicine, social work, and public health, as well as for the social science portion of the MCAT exam. In order to understand the topics of health and illness we must consider not only biological factors, but also a variety of social, political, economic, and cultural forces. Sociologists of health and illness use sociological perspectives and methods to understand topics such as: social

meanings of illness; patterns in the distribution of health and illness; the ways people make sense of, seek help for, and manage their illnesses; the ways doctors, nurses, and patients interact with each other, including the changing nature of health-related professions; the cultural, organizational, and economic functioning of various healthcare institutions; social movements surrounding health, including the ways some deviant behaviors are "medicalized" while others are not; and the sociological effects of public policy on health outcomes. Throughout this course, we will focus on ways that social structures and inequalities with respect to race, gender, sexuality, etc., impact the patterns of health and illness in the United States and worldwide.

### Prerequisites

None

### **SOC223 - Juvenile Justice, An American Dilemma**

This course examines juvenile delinquency and society's attempts to manage 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.

### Prerequisites

None

### **SOC226 - The Sociology of Deviant Behavior**

This course is an examination of the social processes producing unusual, bizarre, and condemned behavior.

### Prerequisites

None

### **SOC232 - Sociology of Religion**

This course is a study of religion as a social institution, including elements of 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, and to monasticism as a way of organizing religious experience. This course is the same as REL 232.

### Prerequisites

None

### **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; childbearing and rearing, and the dissolution of marriage through divorce. Problems and strengths of the modern family will also be addressed.

### Prerequisites

None

## **SOC240 - Sociology of Gender**

This course will provide a framework for understanding female and male gender roles in society, particularly as these relate to gender-based systems of stratification. Included will be such topics as the meaning and development of gender roles; gender identity; the gender-based division of labor at home and in the workplace; and change in gender roles over time. Cross-cultural and historical evidence will be emphasized.

### **Prerequisites**

None

## **SOC241 - Race and Ethnicity**

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.

### **Prerequisites**

None

## **SOC245 - Animals and Human Society**

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. 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.

### **Prerequisites**

None

## **SOC247 - Special Topics**

A study of sociological issues relating to some, area of current sociological interest in the, world today. Topics change; consult, pre-registration bulletin for special topics, titles and course descriptions.

### **Prerequisites**

None

## **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.

### **Prerequisites**

None

## **SOC270 - 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.

### **Prerequisites**

None

## **SOC301 - Contemporary Social Theory**

This course examines modern theories of society and social action as they begin to take shape from about 1930 to the present. During this time period, sociology moves from reliance on key individuals to the development of several conceptual schools of thought and their variations of social theory.

### **Prerequisites**

SOC 101 or one SOC course at the 200-level. Required for the major

## **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. Consequences of inequality for social solidarity and intergroup conflict and for individual life chances and lifestyles.

### **Prerequisites**

SOC 101 or one SOC 200-level course

## **SOC314 - Research Methods**

This course examines the collection and analysis of sociological data. SOC 200 focused on the management of already published materials. This course focuses on generating new data using techniques such as participant observation and surveys.

### **Prerequisites**

SOC 101 or one SOC 200-level course. Required for the major

## **SOC323 - Criminology**

Examination of 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**

SOC 101 or one SOC 200-level course

## **SOC330 - Sociology of Work**

The focus of this course is on occupations and organizations and their sociological contexts. The course examines the transition from industrial societies to service societies and from local economies to global economies. The course critically examines the nature of work and globalization.

### **Prerequisites**

SOC 101 or one SOC 200-level course

### **SOC336 - Sociology of Law**

This course considers the components of law and their relation to traditional and contemporary values of society.

#### **Prerequisites**

SOC 101 or one SOC 200-level course

### **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.

#### **Prerequisites**

SOC 101 or one SOC 200-level course

### **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**

SOC 101 or one SOC 200-level course

### **SOC365 - Urban Sociology**

This course examines changes in the human ecology of urban areas. The importance of territory in urban life is also studied.

#### **Prerequisites**

SOC 101 or one SOC 200-level course

### **SOC370 - Sociology of Sport**

This course distinguishes sport from other activities and institutions. This course examines, among other topics, university sports, gender in sports, the use of science in sports, and doping in sports.

#### **Prerequisites**

SOC 101 or one SOC 200-level course

### **SOC375 - Urban Planning and Community Development**

This course is an examination of the theories, policies, and processes involved in the planning, design, and development of communities across the United States. Emphasis will be placed on the ways in which our communities shape and are shaped by economic, environmental, social, and political forces. Students will gain a fundamental understanding of the roles of citizens, landowners, governmental organizations, and private firms in community decision-making. Because community development is interdisciplinary in nature, the course will draw on the arts,

sciences, and social sciences to examine various aspects of community growth and change.

#### **Prerequisites**

SOC 101 or one SOC 200-level course

### **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- or one 200-level sociology course, comparable courses in the other social sciences, including psychology, or permission of the instructor

### **SOC495 - Senior Seminar (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, 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.

#### **Prerequisites**

SOC 101, SOC 200, SOC 314, MTH 125, SOC 201, and SOC 301. Required for the major

### **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 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.

#### **Prerequisites**

SOC 101, SOC 200, and one SOC 300-level course

## SPANISH

Classifications: Major, Minor

**Faculty:** Amparo Alpanes, Ph. D.; Jessica Craft, M.A.; H.J. Manzari, Ph.D.; Maribel Manzari, M.Ed.; Christy Shaughnessy, Ph.D.; Katherine Ternes, Ph.D.

**Program Directors:** Christy Shaughnessy, Ph.D.

**Department Chair:** Katherine Ternes, Ph.D.

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 Spanish and Latin American cultures. Spanish has become one of the fastest-growing languages spoken by more than 400 million people in 21 countries. The Spanish program at W&J seeks to develop student language proficiency and cross-cultural competency, 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 and to demonstrate more specific knowledge of the Spanish-speaking world. 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 discuss, debate and develop arguments verbally and in written form on a wide variety of cultural and literary topics. These classes are taught exclusively in Spanish.

**MAJOR REQUIREMENTS:** Modern language majors at W&J complete six advanced (300-level or above) courses as well as experience abroad. A minimum of three of the six required advanced courses are taken at the 400-level.

Modern language majors also complete a capstone project in consultation with their major advisor. These capstones do not take the format of a course but may include a special research project associated with a 400-level course or independent study, a follow-up presentation on a language intensive internship, or a pre-approved special project associated with a semester-length study abroad experience.

Modern language majors can complete two foreign language majors.

**STUDY ABROAD:** All modern language majors spend a minimum of one semester, or the academic equivalent, on a study abroad program (course of study or internship) that has been pre-approved by the language program director. The approved program follows general College study-abroad guidelines. JayTerm travel courses and Magellan projects abroad do not

count toward the study abroad requirement.

**MINOR REQUIREMENTS:** Like the major, Spanish minor requirements vary according to entry-level, as determined through the placement procedure. Because of the varying requirements for completing a minor in Spanish, it is to the student's advantage to begin at the highest level possible, usually SPN 207 or SPN 208. However, students with very limited or no background in Spanish will begin their studies with SPN 105 or SPN 106. No course taught in English may count toward the minor.

Students who begin in 105 will take seven classes, including [105](#), [106](#), [207](#), [208](#), [309](#), [310](#), and one 400-level.

Students who begin in 106 will take six classes, including [106](#), [207](#), [208](#), [309](#), [310](#), and one 400-level.

Students who begin in 207 will take five classes, including [207](#), [208](#), [309](#), [310](#), and one 400-level.

Students who begin in 208 will take four classes, including [208](#), [309](#), [310](#), and one 400-level course.

Students who begin in 309, 310 or the 400-level 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 entering freshmen with prior experience in Spanish will receive language placement by the Spanish program faculty. This placement will determine their first course in the sequence. Because of the varying requirements for completing a Spanish 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.

**TEACHER CERTIFICATION:** Students may seek Specialty Education (grades PreK-12) Certification in Spanish by completing the Spanish major, including [SPN260](#), and an Education minor consisting of those courses required for Specialty Education (grades PreK-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 - Elementary Spanish I

These two sequential introductory courses are for students with little or no knowledge of Spanish. Both courses implement a proficiency-oriented, communicative approach that combines the rapid development of speaking, listening, and reading comprehension skills with the acquisition of cultural knowledge. Through constant exposure to visual media, cultural products, and written texts, students learn high-frequency vocabulary and structures. The language students practice in class has practical application in the Spanish-speaking world; they will be able to perform basic communicative tasks in a range of everyday situations. Cultural study at this level broadens students'

understanding of relationships between their culture and those of Spanish-speaking countries and regions. Taught largely in Spanish.

### Prerequisites

Departmental placement; SPN 105, or permission of the instructor, is a prerequisite of SPN 106

## SPN106 - Elementary Spanish II

These two sequential introductory courses are for students with little or no knowledge of Spanish. Both courses implement a proficiency-oriented, communicative approach that combines the rapid development of speaking, listening, and reading comprehension skills with the acquisition of cultural knowledge. Through constant exposure to visual media, cultural products, and written texts, students learn high-frequency vocabulary and structures. The language students practice in class has practical application in the Spanish-speaking world; they will be able to perform basic communicative tasks in a range of everyday situations. Cultural study at this level broadens students' understanding of relationships between their culture and those of Spanish-speaking countries and regions. Taught largely in Spanish.

### Prerequisites

Departmental placement; SPN 105, or permission of the instructor, is a prerequisite of SPN 106

## SPN207 - Intermediate Spanish I

These two sequential intermediate courses are for students with a basic knowledge of Spanish. They review and extend students' communication skills (speaking, listening, reading, writing) and cross-cultural competency, with emphasis on the oral production of Spanish. Students will have numerous opportunities to use linguistic and cultural information to communicate in realistic interpersonal situations and to express ideas and opinions. Through the exploration of authentic visual, audio, and written materials, students become participants in a wide range of language learning and cultural experiences. Because these materials are products of communities within Spain, Latin America, and the US, students gain more detailed knowledge of the diversity within the Spanish-speaking world. 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

## SPN208 - Intermediate Spanish II

These two sequential intermediate courses are for students with a basic knowledge of Spanish. They review and extend students' communication skills (speaking, listening, reading, writing) and cross-cultural competency, with emphasis on the oral production of Spanish. Students will have numerous opportunities to use linguistic and cultural information to communicate in realistic interpersonal situations and to express ideas and opinions. Through the exploration of authentic visual, audio,

and written materials, students become participants in a wide range of language learning and cultural experiences. Because these materials are products of communities within Spain, Latin America, and the US, students gain more detailed knowledge of the diversity within the Spanish-speaking world. 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 - Topics in Spanish and Latin American Literature/Culture in Translation

This course concentrates on a literary or cultural topic that varies from year to year. The course is taught in English.

### Prerequisites

None

## 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 requires 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

## SPN289 - New World Encounters: Latin America through Film

The course is meant as an introduction to the history and culture of Latin America through films made in Latin America. The films range over a large span of Latin American history (at least since the area arguably became "Latin America," from the time of the European invasion beginning in 1492 to the present). We will learn about Latin American culture, politics, history, and identity as well as examine how movies can be used as a tool to understand their subtext and to read films critically inside of the social context of each country. We will watch contemporary films (Brazil, Argentina, Colombia), as well as documentaries that scope the political landscape (Chile) and drama addressing gender and identity (Cuba). This course is taught in English.

### Prerequisites

None

### **SPN309 - Advanced Spanish I**

These two sequential advanced courses focus on the development and application of advanced functional, purposeful Spanish language skills, with special emphasis on speaking and writing. Through formal and informal writing assignments, grammatical exercises, and reading of different genres of texts, students will be able to advance their proficiency in Spanish. In written and spoken Spanish they will express complex ideas, debate critical perspectives, and construct arguments. Course materials center on popular topics in the Spanish-speaking world and issues of global importance. Students will 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

### **SPN310 - Advanced Spanish II**

These two sequential advanced courses focus on the development and application of advanced functional, purposeful Spanish language skills, with special emphasis on speaking and writing. Through formal and informal writing assignments, grammatical exercises, and reading of different genres of texts, students will be able to advance their proficiency in Spanish. In written and spoken Spanish they will express complex ideas, debate critical perspectives, and construct arguments. Course materials center on popular topics in the Spanish-speaking world and issues of global importance. Students will 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

### **SPN311 - Spanish for Healthcare Professionals**

SPN 311 is an advanced conversation course dedicated to the development of Spanish language skills applicable to the field of healthcare and the work of medical professionals. Through a variety of communicative strategies such as class discussions, role-playing, and presentations, students will develop an awareness and understanding of healthcare issues for non-English speaking populations, will learn how to provide and obtain confidential patient-physician information, and will exchange opinions in a culturally sensitive environment. Through the use of authentic texts (written and audiovisual), students will strengthen their ability to communicate, identify and interpret main ideas and important details. At all times the students will be aware of socio-cultural nuances in writing, reading, and oral speech. Emphasis will be placed on the students' versatility when challenged to use different language registers and communicative strategies in Spanish. The class will be conducted in Spanish.

#### **Prerequisites**

Spanish 208 or permission of the instructor

### **SPN357 - Topics in Spanish and Latin American Literature and Culture**

Possible topics could range from current events in the Spanish-speaking world, to Spanish pronunciation practice, to great women artists. Students will work to improve their speaking and listening abilities in Spanish with critical reading, writing, and viewing of film and news clips.

#### **Prerequisites**

SPN 310 or permission of instructor

### **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

### **SPN411 - Introduction to Hispanic Literature and Cultural Studies**

This course introduces students to the foundational methods for studying Hispanic literature and culture at the intermediate-high to advanced-low levels of proficiency in speaking, listening, reading and writing in Spanish. Students will acquire the skills necessary to analyze and discuss literary and visual texts in historical and social contexts. Emphasis is on close reading, comparative study, language development, and academic research literacy. Topics may vary from year to year.

#### **Prerequisites**

SPN 310 or permission of instructor

### **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 and Latinx societies. Emphasis is given to advanced language study, composition, and oral proficiency. The topic to be studied will be announced in the preregistration bulletin.

#### **Prerequisites**

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.

#### **Prerequisites**

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.*

#### **Prerequisites**

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.*

#### **Prerequisites**

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.*

#### **Prerequisites**

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*

#### **Prerequisites**

SPN 310 or permission of the instructor

### **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.*

#### **Prerequisites**

SPN 310 or permission of the instructor

### **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 and Latinx women writers, Latin American short story, or the work of a particular author. The topic to be studied will be announced prior to registration.

*Taught in Spanish.*

#### **Prerequisites**

SPN 310 or permission of the instructor

## 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 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

None

## STUDIO ART

Classifications: Major, Minor

**Department Chair:** John Lambertson, Ph.D.

Studio Art majors and minors develop their creativity and talent by making art in a dynamic environment. In courses like 2D and 3D Design, drawing, ceramics, sculpture, and painting, students learn the language, elements, media, tools, and principles of the craft, and hone their skills in W&J's well-equipped studios.

Their years-long efforts culminate exhibiting their work during in the Senior Show, held in the Olin Fine Arts Gallery on campus every spring.

View our facilities page to learn about the resources available to our students to explore the depths of their creativity and vision.

### Featured Student Art

In the Studio Art major or minor, you will hone your creative thinking skills and work on your visual expression through a series of studio courses, beginning with foundations in drawing and design. As you progress through the program, you'll complete studio work in ceramics, sculpture, and painting. Studio Art majors finish their experience at W&J with a senior art show in the Olin Fine Art Gallery.

### Graduate School Preparation

- MFA in Studio Art
- MA in Art Therapy
- MS in Art Conservation
- MA in Museum Studies

**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 does not count toward the studio art major.

**CAPSTONE EXPERIENCE:** In addition, as a capstone experience, departmental majors must present a Senior Art Show. After each 400-level studio, departmental faculty will critique the semester's work to prepare students for their Senior Art Show. Students will be advised to take specific courses or to work independently to correct any deficiencies and must receive faculty approval before exhibiting work.

**STUDIO ART MINOR REQUIREMENTS:** Seven courses: [ARH 101, 102; ART 108, 112, 361](#) or [362, 363](#), and one 400-level ART course. [ART 400](#) does not count toward the studio art minor.

**AP Policy:** The Art and Art History 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.

## THEATRE

Classifications: Major Emphasis, Minor

**Department Chair:** Karin Maresh, Ph.D.

The [Communication Arts](#) department offers an emphasis in Theatre for majors and a minor in Theatre for non-majors. Both the major and minor are designed to enable students to participate knowledgeably in multiple aspects of the creation of works performed before a live audience, whether as a teacher in front of a classroom, a lawyer in a courtroom, or an actor on a stage. Students are encouraged to gain an appreciation for and develop skills in the writing, staging, performance, and analysis of theatrical productions, with special attention to relationships among artists, audiences, and communities.

**COMMUNICATION ARTS MAJOR WITH A THEATRE EMPHASIS REQUIREMENTS:** A communication arts major with an emphasis in theatre requires 10.5 courses total. [COM 101; COM 102; COM 103; COM 211; COM 251](#); two offerings of the 1/4-course (1 credit) [COM 252](#); one 200-level COM elective which may include [COM 242](#) (must be taken four times to count as one 4-credit course); [COM 301; COM 351; COM 355](#); and [COM 401](#). It is highly recommended that [COM 221](#) be taken in addition to the 10.5 courses.

**THEATRE MINOR REQUIREMENTS:** A minor in theatre requires six courses total. [COM 102; COM 211 COM 251](#); two offerings of the 1-credit course [COM 252](#); two more credits at the 200-level within the Communication Arts offerings; [COM 355](#); and one other 300-level theatre course within the COM offerings.

The Department of Communication Arts offers credit and non-credit opportunities for creative expression to all W&J students. One-credit practica in theatre ([COM 252](#)) and radio ([COM 242](#)) are available each semester, and each course may be taken up to four times.

The department stages a theatrical production each semester, with auditions held early in the term. Auditions are open to all

W&J students. For more information about getting involved with theatre productions, contact the department chair or join the W&J Student Theatre Company.

Participation in the WNJR radio station is also available to all W&J students. After a meeting with Dr. Nick Maradin (WNJR General Manager) and completion of brief written and hands-on tests, a student can host a radio show either alone or with a co-host. For more information about WNJR visit [wnjr.org](http://wnjr.org) and contact Dr. Maradin.

## THEMATIC EMPHASIS

Classifications: Major 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 their 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 a 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 a 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 thematic emphasis proposal 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

Classifications: 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:

- Child Advocacy
- Middle Eastern Studies
- Music & Conflict Resolution
- Peace, Justice, & Development Studies
- Psychosocial Data Analysis
- Religious and Philosophical Foundations of Therapy

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.

## WEB AND MOBILE TECHNOLOGIES

Classifications: Major Emphasis

**Department Chair:** Amanda Holland-Minkley, Ph.D.

The emphasis on Web and Mobile Technologies is available to [Computing and Information Studies](#) majors. It is designed for students with an intended career path in web and mobile application development and focuses on both design issues and production and implementation issues central to delivering content through these media.

**MAJOR REQUIREMENTS WITH EMPHASIS IN WEB AND MOBILE TECHNOLOGIES:** Students complete the requirements of the CIS major, with one of their electives being [CIS 275](#) and at least two of their remaining electives drawn from [CIS 245](#), [CIS 280](#), or [CIS 375](#). Some offerings of [CIS 297](#) or [CIS 397](#) may also be designated as counting towards the Web and Mobile Technologies emphasis.

Students with an interest in a particular subfield within computing are encouraged to consider an emphasis to the CIS major. Students may only declare a single emphasis to the CIS



major. Majors should work closely with their advisor to select a path or emphasis through the curriculum that best fits their long-term career or graduate study goals.

# Academic Opportunities & 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 their educational decisions. Through ongoing conversations, the advisor helps their 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 the student's 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 their education.

### Articulation Agreements

Washington & Jefferson College maintains articulation agreements with other institutions, including:

- **Case Western Reserve University** (3+2 BA/BS Engineering and Applied-Science Dual-Degree Program)
- **Chatham University** (DPT, MAT, MOT, MPAS, and PsyD programs)
- **Columbia University** (3+2 BA/BS Engineering and Applied-Science Dual-Degree Program)
- **Community College of Allegheny County**
- **Lake Erie College of Osteopathic Medicine** (4+4 BA/DO, BA/DMD, and BA/PharmD programs)
- **Lewis Katz School of Medicine at Temple University** (4+4 BA/MD program; Early Assurance Program)
- **Pennsylvania College of Optometry at Salus University** (3+4 BA/OD program)
- **Robert Morris University** (3+2 BA/BS Actuarial Science program)
- **Sidney Kimmel Medical College at Jefferson University** (3+4 BA/MD program for non-science majors)
- **University of Pittsburgh School of Public Health** (Sophomore Guaranteed Admission Program; MPH and MS programs)
- **University of Pittsburgh Swanson School of Engineering** (BA/BS Engineering Dual-Degree Program)

- **Washington University in St. Louis** (3+2 BA/BS and 3+3 BA/MS Engineering and Applied-Science Dual-Degree Program)
- **West Virginia University** (3+2 BA/MS program in Biostatistics; 4+1 BA/MS program in Economics)

For more information about these programs, please contact the Office of Academic Affairs.

## DISABILITY SUPPORT SERVICES

To serve our mission to promote academic excellence, Washington & Jefferson College is committed to providing appropriate accommodations for students with documented disabilities and complies with applicable state and federal laws. Students with disabilities include individuals with physical disabilities, learning disabilities and mental health disorders that meet the definition of a disability under the Americans with Disabilities Act. Students who plan to request accommodations should contact the Director for Academic Success as early as possible, although requests may be made at any time. To determine whether you qualify for accommodations, or if you have questions about services and procedures, contact the Director for Academic Success at 724-223-6008 or [dss@washjeff.edu](mailto:dss@washjeff.edu).

## LIBRARY SERVICES

### Clark Family Library

The library is a great place to study, offering both quiet and collaborative spaces. The library collection provides access to academic and popular resources (like feature films and items for pleasure reading) to the campus community. Computers, printers, and scanners are also available for use.

The librarians and staff are happy to assist you with your information needs, from selecting a topic and starting your research to helping you sort through the print and electronic resources available in-house and online.

The library contributes to campus life with various exhibits and displays from our archives and collections. Stay up-to-date with what is happening with the library by following us on Facebook (@wjclarklibrary), Twitter (@wjclarklibrary), and Instagram (@wjclarkfamilylibrary).

Visit our library website at <https://libguides.washjeff.edu/home> for more information.

## INTERNATIONAL PROGRAMS

## Study Abroad and International Student Initiatives

Students are encouraged to gain a more global perspective by engaging in an international education experience during their time at the College.

This office also oversees exchange partnerships and international student services and support.

### Semester or Academic Year Abroad

Our portfolio includes more than 40 approved programs of academic study in diverse locations around the world. All approved programs are carefully selected and evaluated to ensure high academic quality and immersion in the host culture.

The office provides advising and resources, 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. Students are provided a comprehensive, mandatory pre-departure orientation and support before, during and after their intercultural 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. Students are expected to spend their last term in residence.

**Application:** Students will be guided through this process, which requires faculty recommendation and advisor approval in addition to student completion of application materials. Students should consult with their academic advisor(s) prior to applying.

After students submit an application and receive approval from W&J to study off campus, they will be guided in applying to a specific study abroad program.

**Fees and Financial Aid:** W&J endeavors to make off-campus study affordable to as many students as possible. Generally, financial aid continues when students study off-campus on an approved program. 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 Office of Financial Aid. Scholarships are available (see below).

**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. Our list of approved programs offers students the choice of study abroad locations where it is possible to study in English or in a target language, depending on the student's language ability and academic goals. W&J also offers approved programs where students may learn the

host language while taking other coursework in English. It is also possible to study abroad without studying a second language and to take coursework abroad in English in many locations.

**Academic Credit:** Academic credit is awarded for programs approved by W&J; students will be provided guidance on transfer of credit procedures. Students must earn the equivalent of a C- 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 select courses taken on the Lewis & Clark Year in Munich program. 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.

**Modified Residency Requirements for Transfer Students:** Transfer students who enter W&J with 13-16 semester courses and who are pursuing a major that requires study abroad may count one semester (up to four semester courses), completed in an approved W&J program, toward the College's residency requirements.

### Short-Term Study Abroad

Short term-study abroad opportunities are also available during JayTerm, during which students may enroll in a credit-bearing faculty-led travel course. Students should expect to submit paperwork as requested by International Programs, who will also provide pre-departure orientation. Travel costs will apply and vary by course.

### Scholarships

We are committed to increasing access to study abroad. Students are encouraged to apply for scholarships; W&J offers several awards and funding programs. These are available for JayTerm, as well as semester and year-long study abroad; consult International Programs for details.

# Academic Regulations

## COLLEGE CALENDAR AND ACADEMIC LOAD

The College year is divided into two 15-week semesters (Fall and Spring) as well as a short JayTerm and two 4-week summer sessions. Dates of the beginning and end of each semester/term/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 semester is the equivalent of four courses, to which physical activity, health and wellness, or some other partial courses may be added. During JayTerm, students are limited to one offering (one 2-credit academic course or one 1-credit PHA/PHW course).

## ENROLLMENT INFORMATION

### Full-Time and Part-Time Status

A student attains full-time status by being enrolled in a minimum of three courses during a fall or spring semester, or a quarter or half course (1-2-credits) during JayTerm, 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 during a fall or spring semester 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 24; and
- Seniors have completed 24 or more courses.

\*Please note that physical activity and health and wellness 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

Every student has a faculty advisor. Freshmen are advised by their First Year Seminar instructor. Once students have declared a major, they 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, students have certain responsibilities. They 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(S) AND MINOR(S)

All new first-year students enter the College without any officially declared major or minor, in order that they may explore freely the College's academic offerings. First-year students may declare one or more course(s) of study (majors and minors) beginning at the end of the fall term, and all students must declare a major, and ideally the second required course of study, by the end of the sophomore year. These declarations are nonbinding.

Students declare or change their major(s) and minor(s) via a form obtainable from the Office of the Registrar webpage. The declaration or change of a major/minor does not take effect until recorded in the registrar's office. When students declare a major, they may either choose a new advisor from the department or program sponsoring that major, or they may request their new department chair/program director assign them an advisor. Students pursuing a double major should retain two advisors, one from each major. Students are not required to have a minor advisor.

## REGISTERING FOR CLASSES

Incoming first-year students will be registered for classes by faculty guides during the Summer Gateway process. Faculty guides review each student's course interest form, academic areas of interest, and placement information to determine an appropriate schedule. Students can view their schedules prior to the start of the school year. Schedules are reviewed during orientation with assistance from First Year Seminar (FYS) advisors. New transfer students receive assistance creating their schedules and registering for classes from their assigned faculty advisors.

Current or re-enrolling students at the College will use JaySource, the online registration system, to sign up for classes. The registrar's office publishes procedures prior to each registration period, typically held in November for JayTerm 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 semesters, students may make changes to their registrations up to the end of the first full week of classes. For JayTerm, students have until the end of the second day of the JayTerm session. 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).

Students may not drop a course to avoid the penalties of a case of academic misconduct.

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 JaySource, 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 on the registrar's webpage. The transaction is not final until the online form has been submitted and processed. Students processing add/drops through JaySource 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. Students should obtain in writing an agreement with the instructor regarding what constitutes successful completion of the course audit. This can be done by completing the course audit form found on the registrar's webpage. Permission to audit a course 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 above. Once a course is declared as an audit, a student is not permitted to reverse this action and take the course for a grade.

## OVERLOAD POLICY

For full-time students, fall and spring tuition covers the equivalent of nine-course registrations (36 credits) per academic year in addition to one JayTerm offering. In either the fall or spring semester of any academic year, full-time students may enroll in a fifth course at no additional charge, in accordance with the Fifth Course policy. 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. Physical Activity (PHA) and Health and Wellness (PHW) courses taken toward fulfillment of graduation requirements are included in tuition. Students who wish to take Physical Activity (PHA) and Health and Wellness (PHW) courses beyond what is required for fulfillment of graduation requirements will be charged a fee per credit for those supplementary courses.

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 Activity (PHA) and Health and Wellness (PHW) courses taken for fulfillment of graduation requirements (PHA and PHW courses taken beyond satisfaction of graduation requirements will be charged a fee per credit for those supplementary courses), applied music studies, COM 242 and COM 252, EDU 250, MTH 320, MTH 420, PHY 441, PHY 442, or 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. Direct all tuition inquiries to the Business Office.

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 their 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 students withdraw from a course that they are 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; in the case of JayTerm travel courses, students dismissed for violations of published policies also may not withdraw to avoid the penalties of 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. 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.

Only letter-graded work (A-F) can replace letter-graded work (A-F) in a student's GPA. So, if a student repeats a course in which a letter grade has been recorded and takes it according to our Pass/Fail policy; or, if a student repeats a course at another institution according to our Transfer of Courses policy; or, if a student repeats a course and then withdraws from it under our Withdrawing from a Course policy, the original course grade will continue to be applied towards graduation requirements and the student's grade point average.

A course originally taken according to our Pass/Fail policy can be repeated under the normal rules of this and other policies.

# Transfer of Courses

Washington & Jefferson recognizes that it is common practice for students to bring prior academic work into the institution or supplement their academic experience by studying abroad or away from campus.

Students transferring to W&J may bring in up to 16 course units completed at accredited institutions or awarded through test scores. These are evaluated at the time of admission. Transfer students must complete a minimum of 16 course units at W&J, and only grades attained at W&J will be used to compute a student's grade point average.

Current W&J students, with the approval of their faculty advisors and the Office of the Registrar, may take courses at colleges or universities accredited through a CHEA-recognized organization. Courses must be approved in advance: the [Course Approval Form: Domestic Transfer Credit](#) guides students through the steps.

All students desiring transfer credit must arrange transmission of official transcripts and test scores to W&J's Office of the Registrar. Credit will not be awarded without official documents.

Courses approved for transfer from accredited institutions appear on the W&J transcript as course units. A full course of 3, 4, or 5 credit hours transfers as one W&J course unit, assuming its content, required learning activities, outcomes, and the assessment of those outcomes are consistent with the kind of liberal arts courses offered at W&J. Courses are evaluated not only on *what* students learn but also on *how* students learn. Such outcomes and processes include:

- critical thinking, analysis, and synthesis,
- writing, oral communication, technology,
- quantitative, logical, and scientific reasoning,
- interaction between faculty member and student,
- interaction among students,
- faculty comments on writing assignments and/or exams

A department chair or program director assesses each transfer-course syllabus or description and, sometimes, student work to determine if course content, pedagogy, student-learning outcomes, the amount of reading, and the types and quantity of assignments are consistent with courses taught at W&J, support the College's liberal arts mission, and when relevant, are in accordance with established articulation agreements and policies.

Coursework completed elsewhere may be able to fulfill W&J requirements. Students will need to provide a course description and/or a course syllabus to the relevant party for evaluation:

- Major or minor requirement: Department Chair or Program Director,
- Foundation, Breadth of Study requirement: Associate Dean of Academic Affairs,

- Diversity requirement: Diversity Coordinator.

Courses accepted for transfer that do not align with specific departments or program requirements are designated as elective (ELE) courses. The registrar makes the final determination of credit.

Courses in which students earn grades of C- or better may be transferred to W&J, subject to limitations given below. Courses not using traditional letter grades are considered for transfer only if additional documentation detailing successful completion is provided. Grades for transferred courses do not appear on the W&J transcript, nor are they used to calculate a student's grade point average or to determine graduation honors. Exception: some course grades from Lewis & Clark College's Year in Munich program appear on W&J transcripts.

## LIMITATIONS

- No more than three transferred courses may count toward fulfilling requirements in a student's major or minor.
- No more than five courses or 20 credit hours taken during a single semester may be transferred.
- No more than 16 courses or 64 credit hours completed at other institutions or awarded through test scores may be transferred.
- Students seeking Pennsylvania teacher certification are expected to take all required education courses at W&J. Exceptions may be granted only with the approval of the Education Department.
- Students seeking recommendations from the College's Pre-Health Professions Committee should understand that courses transferred to W&J may not necessarily meet the guidelines for recommendations. Students should read "Committee Policy for Courses Transferred from Other Colleges" in the *W&J Pre-Health Handbook* and direct specific questions to the chair of the Pre-Health Professions Committee.
- The College evaluates, for transfer purposes, military/military science and physical education/activity/wellness courses on a course-by-course basis.

W&J does not accept for transfer any course:

- from an unaccredited institution,
- of a remedial, vocational or technical nature,
- taken online while a student was studying abroad, or
- in which the student has received a grade of D+ or lower.

Note that transferred S/U or P/F courses count toward the limits described in the Pass/Fail section in the catalog.

The College normally awards transfer credit to courses taken within ten years of entering W&J. Courses completed more than

ten years prior will be evaluated on a course-by-course basis.

The College reserves the right to accept or deny the awarding of transfer credit.

## GUIDELINES FOR TRANSFER COURSES WHICH CARRY GENERAL EDUCATION DESIGNATIONS

### Artistic

In order to qualify for the Artistic designation, the course must meet the following criteria.

- Students must either 1) create works of art as expressions of imagination, technique, or historical and cultural context; or 2) understand works of art as expressions of imagination, technique, or historical and cultural context;
- At least two-thirds of content, class time, and assignments must support either creation of works of art or formal analysis of works of art.

### Behavioral

In order to qualify for the Behavioral designation, the course must meet the following criteria:

- at least two-thirds of the course content must focus on the functions of society or community through examination of individual, collective, or institutional behaviors;
- the course must use the tools of observation, qualitative and quantitative modeling, and data analysis to frame questions or challenges appropriate to behavioral inquiry.

### Historical

In order to qualify for the Historical designation, the course must meet the following requirements:

- at least two-thirds of the course must be dedicated to the study of historical development of human societies and institutions;
- the course content and assignments must introduce students to the tools and methods of historical inquiry including: interpretation of primary and secondary historical sources, framing questions appropriate to historical inquiry, and constructing proper explanatory narratives about the past.

### Literary

In order to qualify for the Literary designation, the course must meet the following requirements:

- at least two-thirds of the course must be dedicated to the exploration of human experience as represented in text;
- the course content and assignments must introduce students to the tools and methods of literary inquiry including: close reading, critical analysis, comparative

study, and contextual inquiry.

### Logical

In order to qualify for the Logical designation, the course must meet the following requirements:

- at least two-thirds of the course must be dedicated to the investigation of the world through the use of abstraction and axioms;
- the course content and assignments must introduce students to at least two of the following tools and techniques of logical inquiry: deduction, modeling, quantification, and formalized systems of reasoning.

### Scientific

In order to qualify for the Scientific designation, the course must meet the following criteria:

- at least two-thirds of the course content must investigate the natural world or investigate the means by which scientific principles are assembled;
- the course must have a minimum of 26 hours of weekly hands-on sessions under an instructor's supervision and guidance where students actively use the tools of scientific inquiry (including at least three of the following: observation, experimentation, theoretical inquiry, modeling, and data collection and analysis).

### Diversity

In order to qualify for the Cultural Diversity designation, the course must meet the following criteria:

- at least two-thirds of the course content must focus on the social, cultural, or historical heritage of a non-Western culture, or of a minority or marginalized group within a Western cultural context;
- the course must include assignments that involve active reflection on diversity and its significance (e.g., comparative analysis of different cultures and groups; critical examination of examples of cultural biases; exploration of the role of social, political, or economic systems in creating or changing power differentials between majority and minority populations; etc.).

### Writing

In order to qualify for the Writing designation, the course must meet the following criteria:

- the course must include a minimum of a class-meeting's worth of formal writing instruction: discussion of student work, workshopping, demonstrations with examples, etc.;
- written assignments (thesis-driven essay writing or other discipline-specific kinds of writing such as posters or reports) totaling at least 12 pages, or the equivalent for posters or reports, must comprise part of the final course grade;
- opportunities must be provided for students to improve their writing based on instructor feedback.

## PROCEDURES

### Transfer Students

- Inform the Assistant Director for Transfer Students in the Office of Admissions that you have completed college- or university-level courses and submit your request for courses for transfer; arrange to have your official transcript sent to this individual.
- The Assistant Director for Transfer Students coordinates the process and sends relevant materials to the Office of the Registrar.
- If your course is already on the list of approved courses and if you earned a grade of C- or higher, the registrar approves it for transfer.
- If the course is not on the list, the relevant department chair or program director will review it to determine if it is transferable. A syllabus may be required for this evaluation. The chair or director responds to the assistant registrar with one of the following determinations:
  - Course is acceptable for W&J course equivalent
  - Course is acceptable for general elective (ELE) or department/program elective credit
  - Course is not acceptable for transfer to W&J
- If the course is accepted as a general elective, the Associate Dean will also examine the course. If approved, the course will appear on your transcript. If not approved, there will be a code indicating why it was not approved (e.g., grade not high enough or remedial course).
- The entire process should not take longer than ten working days.
- An email to the student, with a copy to the faculty advisor, will be sent by the Office of the Registrar to report results of the transfer-credit evaluation.

### Incoming First-Year Students

- During the early summer advising period, inform the Gateway team and indicate on your registration worksheet that you have completed college-level courses, International Baccalaureate courses, or advanced-placement tests.
- No later than August 1, arrange for the college/university, IB, or College Board to send an official academic transcript or test results directly to W&J's Office of the Registrar; no transcripts or test scores should be delivered to a third party. Also send the registrar a catalog description for each course completed and, if possible, a syllabus. Coursework will be posted to a W&J record only after official documentation has been received. Direct electronic transcripts to [wjregistrar@washjeff.edu](mailto:wjregistrar@washjeff.edu); direct paper transcripts to Office of the Registrar, Washington & Jefferson College, 60 South Lincoln Street, Washington, PA 15301.
- An email to the student, with a copy to the faculty advisor, will be sent by the Office of the Registrar to report results

of the transfer-credit evaluation.

### Current Students

Before enrolling in a course at another institution:

- Obtain a course description from the website or catalog of the institution and, if possible, a syllabus.
- If studying for a semester away, complete the relevant sections of the Transfer of Credit Form for Off-Campus Study form (from the Office of Study Abroad).
- If taking a course or courses at a US college or university, complete the relevant sections the Course Approval Form: Domestic Transfer Credit (from the Office of the Registrar).
- Get approval for each course from the relevant department chair or program director. Courses must be approved in advance: the [Course Approval Form: Domestic Transfer Credit](#) guides students through the steps.
- If you are hoping to satisfy a general-education requirement with a transferred course, discuss your plans with the appropriate academic dean. You will need a syllabus.
- Obtain all faculty signatures required on the form.
- Return the completed form to the listed office by any specified deadline.

After completing the course:

- Arrange for the institution to send an official academic transcript directly to W&J's Office of the Registrar; no transcripts should be delivered to a third party. Coursework will be posted to a W&J record only after this has been received. Direct electronic transcripts to [wjregistrar@washjeff.edu](mailto:wjregistrar@washjeff.edu); direct paper transcripts to Office of the Registrar, Washington & Jefferson College, 60 South Lincoln Street, Washington, PA 15301.
- If financial aid was received by the other institution through W&J, a financial-aid transcript must be forwarded as well. Failing to do so may jeopardize eligibility for aid in the future. Direct financial-aid transcripts to: Office of Financial Aid, Washington & Jefferson College, 60 South Lincoln Street, Washington, PA 15301.

## ADVANCED PLACEMENT EXAMS

A score of 4 or 5 is necessary for any consideration of course equivalence or placement; policies vary by department (see below). If approved by the appropriate department chair/program director and the Vice President for Academic Affairs, credit and/or advanced placement toward graduation will be awarded. Transmission of an official score report for the relevant year from the College Board is required to award credit.

### AP Credit Policies by Subject/Department

Accounting	N/A
Arabic	N/A

Art and Art History	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.
Biochemistry	N/A
Biology	Students scoring a 4 or 5 on the AP Biology test will receive credit for BIO 100.
Business Administration	N/A
Chemistry	Students scoring a 4 or 5 on the AP Chemistry test will receive credit for CHM 100.
Chinese	Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.
Communication Arts	N/A
Computing and Information Studies	Students scoring a 4 or 5 on the Computer Science A or Computer Science Principles test will receive CIS elective credit and may contact the department chair for consideration to instead receive credit for CIS 220 upon successful completion of CIS 320.
Earth and Space Science	N/A
Economics	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.
Education	N/A
English	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 LITER designation).
Entrepreneurial Studies	N/A
Environmental Studies	Students scoring a 5 on the Environmental Science AP test receive credit for EVS 101. Students earning a 4 receive credit for EVS 100.
French	Students scoring a 4 or 5 on the French language AP exam receive credit for 207AP in that language.
Gender and Women's Studies	N/A

German	Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.
History	Students scoring a 5 on the American History AP test receive credit for HIS 110 or HIS 111 (depending on student preference) and are advised to take a 200-level course as their first history course at W&J. Students scoring a 4 on the American History AP test receive credit for either HIS 110 or HIS 111 upon successful completion of a 200-level American 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 European history course at W&J with a grade of "B" or better. Students scoring a 5 on the World History AP test will receive credit for HIS 103. Students scoring a 4 on the World History AP test will receive credit for HIS 103 if they complete a 200-level history course at W&J with the grade of "B" or better.
International Studies	N/A
Japanese	Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.
Mathematics	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 receive Logical (LOGIC) breadth of study 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 Logical (LOGIC) breadth of study credit. 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 125 and Logical (LOGIC) breadth of study credit.
Mind, Brain, and Behavior	N/A
Music	Students scoring 4 or 5 on the Music Theory AP exam receive credit for MUS 204 and are eligible to test out of MUS 205. 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.
Neuroscience	N/A

Philosophy	N/A
Physics	Students scoring a 5 on PHYSICS 1 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.
Political Science	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).
Psychology	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.
Religious Studies	N/A
Russian	N/A
Sociology	N/A
Spanish	Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.
Theatre	N/A

requirement only after a student has completed one traditionally delivered course in the particular Breadth of Study category in which the student is seeking approval. No online, blended/hybrid, or distance courses can be used to fulfill any of W&J's Foundations requirements. The Course Approval Form asks students to indicate if the course was taught online.

## STUDY ABROAD

Academic credit is given for programs approved by W&J, and courses must be preapproved by the relevant parties: the [Transfer of Credit Form](#) guides students through the steps. The College uses a formula for converting ECTS units to W&J course units. The basic principle is to allow two or more study-abroad courses to be combined based on an equivalency of six ECTS to one W&J course unit; the number of course units awarded cannot exceed the number of study-abroad courses taken (students are limited to five). Students must receive the equivalent of a C- or better for credit to transfer.

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. Transfer students who enter W&J with 13 to 16 semester courses and who are pursuing a major that requires study abroad may count one semester (up to four course units) completed in an approved program toward the College's residency requirements.

## 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 Program can earn credit for up to 8 courses toward graduation at W&J.

The official International Baccalaureate transcript is required to award credit.

## ONLINE, BLENDED/HYBRID, AND DISTANCE COURSES

Students may transfer up to two courses taught entirely or substantially through indirect contact with an instructor. Such a course may be considered for fulfillment of a Breadth of Study

# Assignment of Credit Hours

## Credit Hour Definition

### Pennsylvania

"A semester credit hour represents a unit of curricular material that normally can be taught in a minimum of 14 hours of classroom instruction, plus appropriate outside preparation or the equivalent as determined by the faculty. A quarter credit hour represents a unit of curricular material that normally can be taught in a minimum of 10 hours of classroom instruction, plus appropriate outside preparation or the equivalent as determined by the faculty." 22 Pa. Code Section 31.21(b)

### U.S. Department of Education

Electronic Code of Federal Regulations, Title, 34: Education, Part 600 - Institutional Eligibility under the Higher Education Act of 1965, as amended, Subpart A - General, Section 600.2 stipulates the following:

"Credit hour: Except as provided in 34 CFR 668.8(k) and (l), a credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than - (1) One hour of classroom or direct faculty instruction and a minimum of two hours of out of class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time; or (2) At least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours." U.S. Department of Education guidance of Program Integrity regulation related to the credit hour (<https://www2.ed.gov/policy/highered/reg/hearulemaking/2009/credit.html>) also stipulate:

"The credit-hour definition does not dictate particular amounts of classroom time versus out-of-class student work. Further note that the definition provides that a credit hour may be for an equivalent amount of work over a different amount of time. There is no requirement that a 3-semester hour course meet 3 hours per week during a semester or a 3-quarter-hour course meet 3 hours per week during a quarter. The requirement is that the institution determine that there is an amount of student work for a credit hour that reasonably approximates not less than one hour of class and two hours of out-of-class student work per week over a semester for a semester hour or a quarter for a quarter hour. For example, an institution with a semester-based calendar has a graduate seminar for which it awards 3 semester hours. The class meets only one hour per week over a 15-week semester with the students expected to perform a substantial amount of outside research that is the equivalent of 8 or more hours of student work each week of the semester. For purposes of the Federal definition, the institution would be able to award up to 3 semester hours for the course."

All credit hours awarded by Washington & Jefferson College (W&J) conform to the definitions provided above. These guidelines are in compliance with policies set forth by the Middle States Commission on Higher Education.

## Credit Hour Assignment Policies

W&J generally follows a semester system, with both Fall and Spring semesters being composed of 15 weeks, one of which is a final exam period. We also have a "JayTerm" (January or May) composed of two weeks and summer terms (June and July) composed of four weeks, but these shorter terms adhere to the policy in terms of meeting time and amount of work required.

The W&J faculty are responsible for developing, maintaining, and evaluating the curriculum. Assignment of credit hours is based on the student learning outcomes, the content, and the experience of the faculty. New courses and programs are proposed by faculty and/or departments/programs and vetted by both the Curriculum and Program Committee (CPC) and the Academic Planning Committee (APC). CPC reviews the curricular aspects of the proposals, whereas APC reviews resource implications. After favorable review, courses and programs are then presented by CPC to the faculty for approval. Approved courses are added to the College Catalog and annually assessed by Academic Affairs.

The following provides general guidance on the how the credit hour translates to the particular instruction method.

**Lecture and Seminar:** Courses with multiple students which meet to engage in various forms of group instruction under the direct supervision of a faculty member.

### Fall and Spring Semesters

Credits Awarded	Minimum Instructional Time (14 wks)	Final Exam (15th wk)	TOTAL Contact Time	TOTAL Out-of-Class Time	Total Time
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4	2870 minutes (three 70- minute class sessions over 41 days)	180 minutes	2050 minutes	6000 minutes	9050 minutes
4	2940 minutes (two 105- minute class sessions over 28 days)	180 minutes	180 minutes	6000 minutes	9120 minutes

*Courses are awarded credit in proportion to the minutes of instructional time, with 750 minutes of instructional time and 1500 minutes of out-of-class work (minimum) constituting 1 credit hour. Most W&J courses carry 4 credit hours; this includes courses in the natural sciences which, in addition to the meeting time described above, include a 180+ minute weekly lab (in essence, students receive 0 credit hours for labs associated with lectures.)*

#### JayTerm

Credits Awarded	Minimum Instructional Time (2 wks)	TOTAL Out-of-Class Time (2wks)	TOTAL Time
2	1500 minutes (ten 150- minute class sessions)	3000 minutes	4500 minutes

#### Summer Terms

Credits Awarded	Minimum Instructional Time	TOTAL Out-of-Class-Time (4 wks)	TOTAL Time
4	3000 minutes (twenty 150- minute class sessions)	6000 minutes	9000 minutes

*Courses are awarded credit in proportion to the minutes of instructional time, with 750 minutes of instructional time and 1500 minutes of out-of-class work (minimum) constituting 1 credit hour.*

#### Laboratory

Courses with a focus on experimental learning under the direct supervision of a faculty member wherein the student performs substantive work in a laboratory setting. *Note that only stand-alone labs receive credit at W&J; labs associated with courses (typically 180-195 minutes per week for 13-14 weeks) do not carry any credit hours.*

#### Stand-Alone Laboratories (Fall and Spring)

Credits Awarded	Minimum Instructional Time (14 wks)	TOTAL Out-of-Class Time (14 wks)	TOTAL Time
4	5460 minutes (two 195- minute lab sessions per week)	3000 minutes	8460 minutes

*\*If labs have final exams, they generally are not given in the 15<sup>th</sup> week.*

#### Art Studios

Courses with a focus on the production of an artistic work under the direct supervision of a faculty member wherein the student performs substantial work in a studio setting.

#### Fall and Spring Semesters

Credits Awarded	Minimum Instructional Time (14 wks)	Final Exam	TOTAL Contact Time	TOTAL Out-of-Class Time	TOTAL TIME
4	4200 minutes (two 150- minute class sessions per week)	180 minutes	4380 minutes	8400 minutes	12780 minutes

## Music Ensembles/Lessons

Crediting for applied lessons and ensembles conforms to the National Association of Schools of Music norms, which state that a one-hour lesson is given two credits, even though it does not have 100 minutes of contact time with an instructor per week. Instead, it has higher out-of-class expectations. Ensembles receive 1 credit hour, which meet 210 minutes per week but do not have out-of-class expectations similar to other courses.

### Applied Music Lessons

Credits Awarded	Minimum Instructional Time (14 wks)	TOTAL Out-of-Class Time	TOTAL Time
2	840 minutes (one 1-hour lesson per week)	5040 minutes (6 hours of practice per week)	5880 minutes

*\*Includes jury preparation and performance time*

Credits Awarded	Minimum Instructional Time (14 wks)	TOTAL Out-of-Class Time	TOTAL Time
1	2940 minutes (three 70-minute rehearsals per week)	480 minutes (performances and dress rehearsals)	3420 minutes

*\*Additional out-of-class time may include private practice of parts, but is not quantifiable.*

### Physical Education Courses

The Physical Activity (PHA) and Wellness (PHW) requirements at W&J are intended to provide the knowledge for students to make healthy lifestyle choices throughout their lifetime. Students must take a total of 2 credit hours each of PHA and PHW courses as part of their graduation requirements.

Credits Awarded	Minimum Instructional Time	Final Exam	TOTAL Contact Time	TOTAL Out-of-Class Time	TOTAL Time
2	1680 minutes (two 60-minute class sessions each week)	60 minutes	1740 minutes	3480 minutes	5220 minutes

### 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, the student's advisor, the department chair, and Academic Affairs. Assignment of credit hours (usually 4) is based on the scope of the project and the experience of the faculty. Specific guidelines vary widely between different projects and different departments.

### Internships

Internships allow students to 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. A detailed description of the work/activity that commits the student to 10 hours per week in the Fall, Spring, and Summer Sessions (a minimum of 120 hours total, or 7200 minutes) must be submitted prior to approval. Internships meeting this required minimum are awarded at least 4 credit hours.

# Grading Policies

## 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 JaySource, the College's online registration system. Official copies of grade reports and transcripts are available through the College registrar.

In addition to final term grades, midterm grades are reported to students and are available via JaySource.

Grade-point values are assigned for each credit according to the grading system below.

Letter Grade	Point Value
A	4.00
A-	3.67
B+	3.33
B	3.00
B-	2.67
C+	2.33
C	2.00
C-	1.67
D+	1.33
D	1.00
D-	.67
F	0.00 (No Credit Earned)
P, Pass	Credit Earned
F*, Failure in P/F* course	No credit
W, course withdrawal	No credit
AU, Audit	No credit
I, Incomplete	Credit awarded upon successful completion of the course

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 1/2 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+1/2 +1/2=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 "Pass" represent courses earned, but are not used in the calculation of the grade point average.

## PASS/FAIL OPTION

The pass/fail option is open to all students at the College. Prior to the deadline for course withdrawals, students may elect to take a course, excluding ENG 111, ENG 112, and First-Year Seminar, on a pass/fail (P/F\*) basis.

Students taking courses on a P/F\* basis are subject to all ordinary requirements of the course, including attendance, and must do all the work assigned in the course. For example, they must take all tests and quizzes and must complete all papers.

A student earning a D- or better will be considered to have earned a passing grade and will receive credit (recorded on the transcript as P) for the course. A student receiving a failing grade will not receive credit (recorded on the transcript as F\*) for the course. Neither a P nor an F\* will affect the student's grade point average.

Courses in which a grade of P/F\* is recorded on the transcript will not count towards the fulfillment of requirements in a course of study (major, minor, emphasis, etc.). This rule applies to courses in the primary department, as well as those from other departments that are required by the course of study.

ROTC (MSC), physical activity, and physical health and wellness courses are offered on a P/F\* basis, unless specifically approved otherwise by the faculty.

Excluding ROTC (MSC), physical activity, physical health and wellness courses, internships, and other courses offered exclusively on a pass/fail basis, no more than two courses, regardless of the number of credits they carry, may be taken as P/F\* during a student's time at W&J. After the deadline for the election of P/F\*, any course elected P/F\* counts toward the student's limit of two P/F\* courses, even if the student is subsequently withdrawn from the course or reverts to having the regular letter grade in the course recorded.

Within the first five class days of the next regular semester following the term in which a P was issued, any student may notify the Registrar by completing the online form if they would prefer to have the regular letter grade appear on their transcript and count toward their GPA (such courses may then count toward the requirements of a course of study). Graduating seniors who wish to restore a letter grade prior to the printing of the graduation program will have a period of one hour after final grades are posted in which to submit a change form to the Registrar (specific instructions will appear on the form). Change requests received after this deadline will be reflected on the student's transcript, but will not be reflected on the graduation program.

## 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 JayTerm or summer) or the grade of Incomplete will automatically be converted to an F.

## GRADE DISPUTES

Assigning grades to student work is the responsibility of the faculty. The following procedure lays out the steps available to students to initiate a formal grade dispute. Failure to initiate a dispute or proceed at any stage within the timeframe provided below constitutes forfeiture of the right to proceed with the grade dispute.

- Students who wish to dispute a grade should contact the instructor promptly as their first step.
- If the issue remains unresolved, the student may submit a written appeal to the Department Chair. The student's written appeal must be emailed within the first five business days of the semester following the term in which the grade in question was submitted. (If the Department Chair is the instructor who issued the grade, the student may appeal to the Associate Dean by submitting a written appeal via email within the same timeframe.)
- The Department Chair will review the written appeal, contact the course instructor, and meet with the student.
- If the issue remains unresolved, the student may meet with the Associate Dean. The student must schedule the meeting with the Associate Dean within five business days of meeting with the Department Chair.
- The Associate Dean will investigate the concerns with the student, the instructor, and the Department Chair, and will communicate a final decision in writing to all parties.

## ACADEMIC SANCTIONS

At the end of each full semester, students who appear to be in academic distress will have their records reviewed by the Academic Status Committee. Based on this review, full-time students may be issued a warning, placed on academic probation, or dismissed from the College. Students receiving warnings face no immediate disciplinary consequences and may continue to

participate fully in campus life, but must improve their academic performance to avoid future disciplinary action. Students placed on academic probation must arrange an interview with a representative of the Office of Academic Affairs to review their academic performance and establish a program for improvement; these students 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, 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

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 their own intellectual labor is indeed their 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 their 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 Director for Academic Success 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

## GRADUATION PROCEDURES

Students who plan to graduate must file an application for graduation no later than the first term of their senior year. The application for graduation is available in the student self-service portal. To participate in graduation ceremonies, including Baccalaureate and Commencement, students must have completed all degree requirements or be within four credits of completion, including no more than one outstanding College-wide, major, or second-course-of-study requirement, by the end of the spring of the senior year. Only those who have fulfilled all degree requirements and have no financial obligation to the College will receive a diploma.

## 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 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. Contact the Student Life office at 724-229-5120 or [studentlife@washjeff.edu](mailto:studentlife@washjeff.edu) to initiate this process.

## 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

## 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 pass/fail. Courses taken P/F\* 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 15-week semesters of classes.

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. Any student who has two reported instances of academic dishonesty is not eligible to receive Latin honors.

## 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 website. 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); 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).

# Special Prizes and Awards & Phi Beta Kappa

## SPECIAL PRIZES AND AWARDS INCLUDE:

**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 Ransohoff Burnett Prize in Music** - Established in 1991 by former College President Howard J. Burnett in memory of his wife, Barbara Ransohoff 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. '40 and Connie Ceisler 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 CIS Award for Interdisciplinary Computing** - This award was established with a gift from John Mathews '11 and will be awarded annually to a student who completes interdisciplinary work in the field of computing.

**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.

**The Communication Arts 'Winter Tales' Prize for Top Script** - Every year the Department of Communication Arts grants an award for the best student written play, written for Winter Tales, the College's annual ten-minute play festival. The award is given to the student artist who has constructed the most

effective drama or comedy.

**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 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 3.0 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.

**Frederick J. and Frances Jeanne Frank for Leadership in the Communication Arts** - 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 and Biochemistry** - Presented annually to an outstanding junior or senior chemistry or biochemistry major who is 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 the Vice President and Dean of Student Life. 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.

**J. Robert Maxwell '43 Student Internship Endowment** - Funded by J. Robert Maxwell '43, the J. Robert Maxwell '43 Student Internship Endowment (hereinafter, the Maxwell Internship Award) is intended to support students who can demonstrate financial need in completing off-campus internship experiences. The internship is not restricted to any geographic location, major, or type of institution (e.g. academic, for non-profit,

government).

**Mazingira 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.

**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.

**K. Wayne Robison Prize Fund** - This merit-based award is given annually to a junior accounting major with a 3.25 GPA or higher, who holds a leadership position (campus or national organization), is involved in an extracurricular activity (works and takes classes, religious organization involvement, active volunteer) and communicates well (write an essay to apply for KWR prize). The essay will include why the student chose to be an accounting major and describe their career ambitions. The KWR Prize Fund will provide a credit toward the recipient's senior year tuition.

**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.

**Scholar in International Studies** - This book award is presented to a graduating senior majoring in international studies and who has achieved a 3.5 GPA or higher in the major, demonstrated fluency in a foreign language beyond the intermediate level and a good understanding of other cultures. The Director of the International Studies Program selects the award recipient.

**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.

# Academic and Endowed Prizes

## Academic Prizes

Certain academic departments annually recognize the intellectual curiosity and scholarly accomplishments of students in their programs. Specific award criteria are set by the departments themselves, but are all based upon meritorious academic achievement. Prizes are well-bound books selected jointly by the recipient and the chair of the department.

Art	Scholar in Art
Biochemistry	Scholar in Biochemistry
Biology	Edwin Scott Linton Prize
Chemistry	Jesse W. Lazear Price
Communication	Scholar in Communication
Computing and Information Studies	The CIS Award for Independent Learning
Conflict and Resolution Studies	Scholar in Conflict and Resolution Studies
Economics	Benjamin Franklin Prize Walter Hudson Baker Prize
Education	Scholar in Education
English	John Livingston Lower Prize William Holmes McGuffey Prize
History	Henry Wilson Temple Prize
Languages	J. Adolph Schmitz Prize
Mathematics	Clyde Shepherd Atchison Prize
Music	Scholar in Music
Philosophy	Edward Moffat Weyer Prize Robert Lloyd Mitchell Prize in Ancient Greek Philosophy
Physics	George Winchester Prize
Political Science	James Gillespie Blaine Prize, James Clyde McGregor Prize
Psychology	Scholar in Psychology
Sociology	Scholar in Sociology

## 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.

**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.

**William G. and Belle M. Marshall Prize in Economics** - Established in 1984 by James M. Marshall '40, in memory of his parents, William G. Marshall '11, trustee from 1949 until his death in 1957, and Belle M. Marshall. Preference for the award will be given to students demonstrating achievement and promise in economics and business.

**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 their 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 their 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 Sandra Stout Endowed Prize Fund in Education** - Provides 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.

**The Gordon E. Swartz History Fellowship** - This prize will be used to provide funding for a student, chosen by the History department, who is a declared History major of high academic standing. The recipient will use the funds during the summer between their junior and senior year to do scholarly, independent research or to take an internship that will lead to an independent study during the senior year. The expected outcome of the research and independent study will be a project suitable for honors and one that educates the college community via a public forum/presentation.

**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. 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.

**Maurice Cleveland Waltersdorf Award for Innovative Leadership** - Established through a challenge grant by his son, John M. Waltersdorf, member of the Class of 1946, and support from former students. An annual award is given to a student who has completed three full years at W&J and who best exemplifies academic excellence and promise as a leader in our free enterprise society. Dr. Waltersdorf was a professor and chairman of the Economics department from 1924 to 1956.

**Maurice Cleveland Waltersdorf Prize in Economics** - Income from a fund given by friends and former students of Maurice C. Waltersdorf provides a prize that is awarded annually to the member of the graduating class who, as an Economics major, attained the highest average in all work done in the Department of Economics.

**Stelvio W. Zanolli '43 Memorial Scholarship Award** - Established by the family, friends, and former students of Professor Zanolli, this scholarship award is given annually to a student who is eligible for financial aid and who has excelled in leadership at the College through athletics or other endeavors.

**The Barbara Betler Greb and Edward Martin Greb Endowed Student International Travel Award Fund** - Established by Dr. Edward Martin Greb, a member of the Washington & Jefferson College faculty since 1975, this fund commemorates Dr. Greb's appreciation of a quality college education that endeavors to widen students' horizons through affordable international travel opportunities. As directed by the donors, this award may be available to one or more students in good standing regardless of class year who indicate a desire to travel internationally for college credit and meet the qualifying criteria for award consideration. Qualifying students will be considered based upon the criteria established by the appropriate review committee of the College and include the founding donors fund establishment intent and student selection considerations.

**Dr. Emory A. Rittenhouse II Prize in Biology** - This endowed prize is given annually to the senior Biology or Biochemistry major who best exemplifies the qualities of academic excellence, research engagement, and service to the department, college, and/or profession.

**Betty and Bill Saalbach Adam Smith Silver Pin Award** - Established and endowed in 2007 by Bill and Betty Saalbach, and contributed to by alumni, faculty and friends, this endowed prize fund has been created to support a qualifying Economics major whom authors the outstanding senior thesis. The annual

amount for the prize award provided by this fund will be a \$500 cash prize, and the Silver Pin Award. This annual award shall be administered by the Economics chair and faculty in accordance with the above guidelines.

**Theodore M. Slabey Prize in Mathematics Education** - The award is to be given to an outstanding student in mathematics education who has completed his/her graduation requirements. Preference is to be given to a student either in primary (upper elementary) education with a focus major/minor study in Mathematics or secondary education (mathematics education). It is intended that this award be given to a senior and presented at the spring Honors Convocation.

**The Dennis G. Trelka Endowed Fund in the Life Sciences** - Provides an annual student prize for original research in the life sciences.

**The Dr. Frederick H. Wilson Memorial Academic Prize in Economics** - Established endowment by family and friends in memory of Dr. Frederick H. Wilson, W&J Class of 1943, and Emeritus Trustee of the College until his death in June 2004. Dr. Wilson was a well-respected business and community leader who displayed a deep-seated love and active interest in the educational value of his alma mater. Preference for this annual award is to be given to an upperclassman who has demonstrated achievement and promise in economics and business. Award selection will be made in accordance with the College's academic recognition guidelines.

**The Irene Kennedy Williams Endowed Prize** - Established by Susan A. Cohen '84 and Douglas Williams in memory of their mother.

**Dr. Delia Lagar and George Jaques Böhm Endowed Prize** - Established via gifts from friends and family in memory of Dr. Delia and George Böhm. The purpose of the fund is to create a permanent endowment that will provide income annually for a prize fund to a student who is majoring or minoring in Spanish to assist with studying abroad in Latin America during the summer.

# Admission

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 PLANS

### Early Admission (High School Dual Enrollment)

The Early Admission Plan is for those high school juniors who possess high academic credentials and desire to enter college during their senior year of high school. Students are able to apply for Early Admission beginning January 15 of their junior year of high school. Evaluation of the candidate's qualifications are based on the following:

- Student must submit parents' written approval.
- Student must submit written approval from their high school.
- High school transcript with GPA of 3.5 or higher, including at least two terms of junior year
- SAT or ACT scores (optional)

It is the responsibility of the student to secure a high school diploma in order to receive full admission to W&J for the fall term following their senior year.

### Early Decision (binding)

The Early Decision Plan is for those senior students who have determined W&J to be their first choice college. A completed application for admission and all required materials must be submitted to the Office of Admission by December 15 of the senior year. Candidates will be notified of the status of their application by December 21. Each student accepted under this plan will be required to submit an advance deposit of \$300 by January 31. 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 decision applicants who complete their application by December 15 will be eligible to receive W&J's Early Decision award upon enrollment.

### Regular Decision (nonbinding)

The Regular Decision Plan is for students who wish to apply to W&J by the priority application date of April 1. Regular Decision is a nonbinding application, and applicants will have an admission decision within three weeks of their completed application.

Regular Decision applicants will receive priority scheduling and housing preferences if they apply before the late application date

of July 15.

### Admission Decisions

Accepted applicants are asked to confirm their intent to enroll by submitting an advance deposit of \$300, accompanied by the Admission Reply Form no later than May 1. This nonrefundable deposit is credited toward the first-term billing.

Pennsylvania residents must also complete the FAFSA no later than May 1 in order to be eligible for state-funded financial aid.

## 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

Students may apply to W&J using our online application, the Common App, or the Coalition Application at <https://www.washjeff.edu/apply>. To be considered for admission, applicants are asked to submit the following materials:

- A completed application form
- An official high school transcript
- Official SAT or ACT (optional). The SAT code for W&J is 2967. The ACT code for W&J is 3746.
- A 250-500 word personal statement (optional)
- A school report to be completed by your guidance/college counselor (optional)

Students may also submit an activities list or resume (optional) to be considered for leadership potential and eligibility for W&J Thrive, our highest merit scholarship award.

## CREDIT FOR ADVANCED PLACEMENT (AP) AND INTERNATIONAL

## BACCALAUREATE (IB) COURSES

Information can be found in the section titled [Transfer of Courses](#).

## CREDIT FOR COLLEGE COURSES TAKEN IN HIGH SCHOOL

Information can be found in the section titled [Transfer of Courses](#).

## DEFERRED ADMISSION

Those students who desire to defer their admission must notify the Office of Admission of their preference to defer, and will be granted permission to defer acceptance for up to one calendar year. Students may choose to defer their application before or after submission of the deposit.

## READMISSION

Any student wishing to gain readmission to the College after a period of absence of one calendar year or more 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 may 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 Zoom. Students who choose to apply under the score-optional policy will be given full consideration, with no disadvantage for admission.

## TIMETABLE

<b>Early Admission Application (High School Dual Enrollment)</b>	
Available (for high school juniors)	January 15
Deadline	August 1
<b>Early Decision Application</b>	
Deadline (binding)	December 15
Early Decision Notification	December 21
<b>Regular Decision Application</b>	
Priority Application Date (nonbinding)	April 1
National Candidates' Reply Date	May 1
Late Application Date (nonbinding)	July 15

# International Students

Washington & Jefferson College welcomes applications from international students. To apply, a student must submit the following:

- A completed application form
- an official transcript in English of their marks/grades for all of their years of high school
- a letter of recommendation (teacher, counselor, or headmaster) (optional)
- personal statement/essay (optional)
- list of activities (optional)
- SAT or ACT scores (optional)
- Proof of English proficiency.\*

\*Tests may be waived with submission of an SAT score in critical reading above 600. Proof of proficiency includes:

- English speaking school transcripts
- Test of English as a Foreign Language (TOEFL)
- International English Language Testing System (IELTS)
- Duolingo
- Peterson Test of English (PTE)

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. W&J does grant credit for IB, A-level, and certain other national examinations.

International students are eligible to receive institutional merit-based scholarships, but must be prepared to meet all College expenses through personal sources. Government regulations require international students to submit documentary evidence of financial support for the first year of education. The Office of International Student Initiatives will work closely with students to collect and verify financial documents. The Office of International Student Initiatives reserves the right to request secondary documentation to verify proof of funding.

The Office of International Student Initiatives additionally offers free F-1 visa advising to all admitted international students applying for an F-1 visa. The Form I-20 is the necessary immigration form required to apply for and to receive an F-1 visa. The I-20 will be issued to students who have been accepted and who have submitted evidence of financial support. The \$300 nonrefundable deposit will be credited to the first term billing.

# Transfer Students

Students who have earned any post-secondary credit from a regionally accredited college or university may apply to admissions as a transfer student. Transfer students must submit a completed transfer application, [a completed Transfer Clearance Form](#), and official transcripts from all previous colleges attended.

Additionally, transfer students may be required to submit an official high school transcript as supplemental information. If accepted, transfer students are required to make an advance deposit of \$300 (nonrefundable), which will be credited toward the first-term billing.

Final decision concerning transfer is made through the Office of Admission, and official transfer credit is equated through 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, excluding First Year Seminar (waived for transfers). Transfer students must complete a minimum of 16 courses at W&J and must fulfill the requirements as described in this catalog (see [College-Wide Requirements](#) and [Summary of Degree Requirements](#)). Transfer students will be assigned a faculty advisor upon matriculating to W&J.

Policies about transferring courses from other institutions can found in the section titled [Transfer of Courses](#).

International applicants will receive further guidance during their admission process.

# Financial Aid Application Procedures

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.

All students wanting to be considered for financial aid must file the Free Application for Federal Student Aid at [www.fafsa.gov](http://www.fafsa.gov). 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. Students and parents can be assured that all financial aid statements will be held in strict confidence.

## FRESHMAN

Students planning to attend W&J 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 can be filed as soon as possible after October 1 in the senior year of high school. It is recommended that the form be filed by February 15 to insure that the results are received by the College before March 1. This application can be filed online at [www.fafsa.gov](http://www.fafsa.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.

## 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.

## TRANSFER

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. Please note that transfer students are awarded financial aid at the freshman class level status until official notification is given as to the actual class level of the transfer student based upon the official transcript and courses accepted to W&J College.

## STUDYING ABROAD

It is recommended that any student considering studying abroad for a semester or academic year should first meet with a representative from the Office of Financial Aid who will 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 International Programs and the term of study. Please note that tuition remission and tuition exchange can only be used to pay for expenses while studying abroad under certain circumstances.

Students wishing to study abroad during JayTerm 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.

# 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 Committee on Academic Status 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 the College Catalog.

In addition to the review of academic standing completed by the Committee on Academic Status, 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 semester.

Two criteria are involved in evaluating academic progress in regard to financial aid eligibility: Quantitative standards and Qualitative standards. Quantitative standards are the pace at which the student is progressing through their academic program and the qualitative standards are the GPA requirements needed at each evaluation.

### Quantitative Standards

Students must maintain a pace of progression by completing a minimum of 67% of all attempted credits in order to complete a degree within the maximum time frame allowed for receipt of financial aid.

To meet the minimum course completion requirement, a student must receive a passing grade and earn credit in the course. Physical activity (PHA) and health and wellness (PHW) credits do not count toward course completion since they are handled separately from the other courses required for

graduation.

Full time students may receive federal financial aid for no more than a six year period (12 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.

### Summer

The Office of Financial Aid will review your eligibility for federal and state aid programs, as there is no institutional financial aid (scholarship or grant aid) for the summer terms.

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 GPA by the end of each academic year to maintain satisfactory academic progress:

First Year: 1.17

Second Year: 1.74

Third Year: 1.94

Fourth Year: 2.00

Fifth Year: 2.00

Sixth Year: 2.00

Years reflected above are measured in time and not grade level.

## OTHER CONSIDERATIONS

### Transfer Students

For transfer students, courses accepted for credit at W&J from the institution previously attended will be used to evaluate quantitative standards. Only grades earned at W&J will be used to calculate the cumulative GPA. 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 semester.

### Readmission

Students who are re-admitted to W&J after a period of non-enrollment will be evaluated using the regular standards regarding pace of progression and cumulative GPA, taking into consideration all coursework from past and present. In regard to the six 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 pace of progression. The same cumulative GPA requirements apply as described under Policy Requirements.

## Repeated Courses

For those students who repeat a course, both attempts will count toward pace of progression. Only the most recent grade will be used to determine the cumulative GPA.

## Course Audits

Audited courses do not count toward pace of progression and also are not used in the determination of the cumulative GPA.

## Incomplete Grades

Courses at an incomplete status will not be counted as completed until a passing grade is received. They also will not be included in the cumulative GPA calculation until a 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 at a withdrawn status are counted as attempted credits in the pace calculation but not as completed credits and are factored into the maximum time frame of six years. (For example, one semester of courses at a "W" status counts as a semester toward the 12 semester maximum.) These courses do not affect calculation of the cumulative GPA.

## Transfer Credit

Courses accepted for credit taken at another institution will be counted toward the pace of progression, but will not be used in the calculation of the cumulative GPA.

## Pass/Fail

For courses taken Pass/Fail (P/F\*), the course will count as attempted credits but only a Pass (P) grade will count toward completed credits. Neither a P grade nor an F\* grade affects the cumulative GPA.

# 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 a Satisfactory Academic Progress Appeal Form
- Enclose any supporting documentation to substantiate your appeal (for example, submit a medical statement if illness is the basis of the appeal); all information will be strictly confidential
- Submit an Academic Improvement Plan to ensure

satisfactory progress in the future

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. If the appeal is approved, the student is placed on Financial Aid Probation for one semester and financial aid eligibility is reinstated for this time period. Academic progress will be evaluated at the end of the probationary period (one semester) based on the standards specified in the Academic Improvement Plan. If satisfactory progress was made and the Academic Improvement Plan requirements were met for that semester, the student is removed from Financial Aid probation. If progress was not made, the student will lose their financial aid eligibility until the SAP requirements have been met.

In regard to the Academic Improvement Plan, please note the following:

- Summer school coursework not taken at W&J cannot be calculated in the student's GPA but can count toward pace of progression
- Incomplete grades must be changed to a passing grade in the time frame designated by the Registrar in order to count toward pace of progression
- Transfer credits will not be considered toward pace of progression 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), Federal Work-Study (FWS), and the William D. Ford Federal Direct Loan Program, which includes the Federal Direct 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 Military Benefits section below 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), and loans from the William D. Ford Federal Direct Loan Program.

The SEOG and FWS programs 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 file the Free Application for Federal Student Aid (FAFSA) at [www.fafsa.gov](http://www.fafsa.gov). All federal loans require submission of a loan agreement (otherwise known as a master promissory note, or 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](http://www.studentaid.ed.gov).

### MILITARY BENEFITS

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.

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.

## Veterans Benefits

*and Transition Act of 2018, section 3679 of title 38, United States Code School Compliance*

Washington & Jefferson College will permit any covered individual to attend or participate in the course of education during the period beginning on the date on which the individual provides to the educational institution a certificate of eligibility for entitlement to educational assistance under chapter 31 or 33 and ending on the earlier of the following dates:

- The date on which payment from VA is made to the institution.
- 90 days after the date the institution certified tuition and fees following the receipt of the certificate of eligibility.

A certificate of eligibility can also include a "Statement of Benefits" obtained from the Department of Veterans Affairs' (VA) website e-Benefits, or a VAF 28-1905 form for chapter 31 authorization purposes.

Washington & Jefferson College will not impose any penalty, including the assessment of late fees, the denial of access to classes, libraries, or other institutional facilities, or the requirement that a covered individual borrows additional funds, on any covered individual because of the individual's inability to meet his or her financial obligations to the institution due to the delayed disbursement funding from VA under chapter 31 or 33.

Washington & Jefferson College does require a covered individual to complete, sign, and return the "VA Enrollment Form" to a School Certifying Official (SCO) each semester in order to authorize the SCO to submit the covered individual's certification. NOTE: A Covered Individual is any individual who is entitled to educational assistance under chapter 31, Vocational Rehabilitation and Employment, or chapter 33, Post-9/11 GI Bill benefits.

Note that W&J also participates in the Department of Veterans Affairs' Yellow Ribbon GI Education Enhancement Program to assist eligible students with obtaining a degree.

## 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. Open campus positions are advertised on the College Central Network website. Advertisements for positions in the local community received by the Office of Financial Aid will be posted in the Financial Aid Office and with the Center for Professional Pathways.

## 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.

# Scholarships

## W&J Thrive Scholarship, 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. 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 Management and the Dean of Admission.

Admission applicants are considered and notified after the review of their application for admission has been made. No separate application is required. Scholarships are renewed annually (maximum of eight semesters of funding) subject to achievement of the required minimum cumulative grade point average (3.10 for the Thrive and 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.

## 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 and abide by the regulations governing College life. This scholarship may be applied to tuition charges only and is renewed annually subject to achievement of the required minimum cumulative grade point average of a 2.50. Scholarship amounts are split evenly across semesters with a maximum of eight semesters of funding. 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 and abide by regulations governing College life. This scholarship is renewed annually subject to achievement of the required minimum cumulative grade point average of a 2.50. Scholarship amounts are split evenly across semesters with a maximum of eight semesters of funding.

For more information, contact the Office of Admission.

## 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.

## Merit Scholarships

Each year, Washington & Jefferson College rewards distinguished academic performance by offering merit scholarships to selected members of the entering class. Scholarships vary based on the candidate's level of achievement and are renewed annually subject to academic performance. For a full listing of merit scholarships and specific criteria, please visit [www.washjeff.edu/scholarships](http://www.washjeff.edu/scholarships).

## 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

If a student earned less aid than was disbursed, the institution would be required to return a portion of the funds and the student may 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 them, 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 30 days after the date of the determination of the date of the student's withdrawal.

Refunds are allocated in the following order:

- Unsubsidized Federal Direct Loans
- Subsidized Federal Direct Loans
- Federal Parent (PLUS) Loans
- Federal Pell Grants for which a return of funds is required
- Federal Supplemental Opportunity Grants for which a return of funds is required
- 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 will not be awarded or processed until the review process is complete. Lack of payment to the Business Office by the 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

- Copies of federal tax return transcripts for the student applicant and their parent(s). Copies of all W2s are required as well. Independent students need not submit parental information; however, spousal information is required.
- 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.

Additional documentation may be requested at the discretion of the Director of Financial Aid. For example, families who receive Social Security Income will need to submit a 1099.

## Noncompliance

If the required documentation is not submitted, the following may occur:

- No financial aid for the semester or academic year.
- Future applications for financial aid may not be processed.
- 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 FAFSA 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 Direct Loan - Verification must be complete before the Office of Financial Aid will certify a Direct 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.
- 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.

## Correct Information

When possible, the Office of Financial Aid will make electronic corrections to students' FAFSA applications. These corrections will

generate an updated Student Aid Report sent via paper or electronic means. The expected family contribution may change based on the corrections made.

### **Completion of the Verification Process**

When the verification process is complete, students will immediately receive:

- A letter confirming that the verification review is finished.
- 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 December 21, 2021

\*\* Deceased January 28, 2022

# Faculty

## PROFESSOR

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NSF Postdoctoral Fellow, University of Florida; Ph.D., Carleton University; M.S., M.A.T. and B.S., Central Michigan University

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Art; Edith M. Kelso Chair of Art History  
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