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GENERAL ACADEMIC ADVISING INFORMATION

What is Academic Advising?
“Academic advising is integral to fulfilling the teaching and learning mission of higher education. Through academic advising, students learn to become members of their higher education community, to think critically about their roles and responsibilities as students, and to prepare to be educated citizens of a democratic society and a global community. Academic advising engages students beyond their own world views, while acknowledging their individual characteristics, values, and motivations as they enter, move through, and exit the institution.” Excerpted with permission from NACADA: The Global Community for Academic Advising www.nacada.ksu.edu.”

Washington & Jefferson College’s Academic Advising Mission Statement:
Academic advising fosters the development of the whole student and is central to the teaching mission of Washington & Jefferson College.

While the advisor and advisee share the responsibility in academic planning, the student is ultimately responsible for his/her educational decisions. Through ongoing conversations, the advisor helps his/her advisee

- explore personal interests and abilities in order to create meaningful educational, extracurricular, and career plans;
- understand the College curriculum and institutional policies;
- create coherent and appropriate course schedules;
- monitor his/her progress toward fulfilling graduation requirements;
- locate campus and community resources when different or additional expertise is required; and
- become more focused, self-directed, and engaged in his/her education.

ADVISEE INFORMATION AND REPORTS
- **Course Interest Forms**: Completed by incoming freshmen and used by faculty advising guides to create fall schedules. Given to FYS instructors prior to the start of fall semester.
- **Advisee Grade Report** (Informer): View advisees’ current schedule, midterm grades, and final grades.
- **Photo Roster** (Informer): View roster for FYS with student photos.
- **My Advisees List** (WebAdvisor): Select “My Advisees” on the faculty menu. NOTE: If you put the Start and End date as today, you will get your current advisees.
  - View Transcript, Schedule, Program Evaluation, Test Summary (Language and Math Placements, SAT/ACT scores), Student Profile
- **Grant Approval to Register** (WebAdvisor): Students must be granted approval by advisor to register. Check approval box and click submit.
- **Emailing your Advisees**: You can email your current group of advisees by using an email address with your W&J username in this format: username-adv@washjeff.edu
MAKE EXPECTATIONS CLEAR

- What are the advisee’s responsibilities in the advising relationship?
- How should advisee prepare for advising appointment?
- How do you prefer to communicate?

DISCUSSION TOPICS

- Review degree requirements (see pages 7-10 – Curriculum and Notes). Use advisee’s program evaluation in WebAdvisor as reference.
  - Track progress: 32 courses + 2 Intersession courses + 4 credits of Physical Activity and Wellness
  - Students need to make up failed or withdrawn courses to stay on track.
  - Be mindful of the catalog year students began as the curriculum changed for students entering in 2016 and forward. Catalog of entry is listed on a student’s program evaluation and in Student Profile (under My Advisees in WebAdvisor).
- How do the Foundations and Breadth requirements contribute to the student’s academic experience?
- Create semester, year-long, and 4 year plans. Academic Planning documents available on Curriculum Resources page in wiki.
- Discuss classes, grades, and time commitments. Ask open-ended questions for more in-depth answers.
- Review midterm grades (Advisee Grade Report) and academic or other issues.
- Refer to campus resources when necessary.
- Discuss opportunities outside coursework: Study abroad, extracurricular activities, Magellan, travel Intersession courses, internships, research, etc.
- Discuss major/minor/program interests. Students must declare a major by the end of their sophomore year. Students are blocked from registering if not declared by fall of their Junior year.
- Summer school: Summer can be an opportunity for students to make up courses, bring up their GPA’s, and experience smaller class sizes. The tuition rate is lower and there are fewer fees for summer courses. Contact Dr. Steve Malinak for more information.

REGISTRATION

- Know and communicate registration dates and deadlines for add/drop, S/U, withdrawals, etc. (Academic Calendar or Registrar Wiki page).
- Students register by registration class (freshman, sophomore, junior, senior) based on number of completed credits. Note: Registration classes are no longer subdivided into groups with different registration start times. All students within a class start registering at the same time.
- A student’s registration date, time, class, and any restrictions are sent via email from the Registrar. You can also see this information in your advisee’s Student Profile in WebAdvisor. Registration dates are posted on the Registrar wiki page.
- After advising appointment, advisor must grant permission for advisee to register in WebAdvisor before registration begins. On the main menu, select Grant Approval to Register.
- Inform advisee of waitlist process (see page 6 - Waitlisted Courses) and how to get permission to enter closed classes. Suggest students register full-time even if they are waitlisting courses.
• Look out for red flags: Too many courses in one day, too many challenging courses in one semester, taking less than 4 academic courses in one semester, taking a partial course (such as PHA/PHW) course as a 4th course.

BILLING INFORMATION

• **Annual tuition** at W&J covers 9 courses per academic year or the equivalent for full-time students. Intersession courses are included in two of these years. In years when a student is not taking Intersession, the 9th course can be taken during the Fall or Spring semester without an additional charge, in accordance with the College’s Fifth Course policy (see below). 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.

• **Intersession Billing**: A student will be billed for additional Intersession courses beyond 2. This policy applies to Intersession courses offered in May as well as January. Travel Intersession courses may carry an additional cost. A student may not count extra Intersession courses beyond 2 toward the 32-course requirement for graduation.

• **Physical Activity and Wellness Courses (PHA/PHW) Billing**: A limited number of PHA and PHW courses are included in tuition. Those taken for fulfillment of graduation requirements are included in tuition. PHA and PHW courses taken beyond satisfaction of graduation requirements will be charged a fee per credit.

• **Other Courses Billing**: The following courses are included in tuition: MUA courses (instrumental/singing lessons carry a fee), COM 242 and COM 252, EDU 250, MTH 320, MTH 420, PHY 441, PHY 442, BIO 301, or freshman and sophomore-level ROTC courses (MSC 101, 102, 201, and 202).

• **Course Withdrawals/Failures**: Students still pay for courses they have withdrawn from or failed. Full withdrawals from the College may have partial tuition reimbursement. Students should consult with Student Life and the Business Office.

• **Fifth Course Policy**: A fifth course can be taken by any student who has completed one semester on campus. The student must be in good academic standing and have the required grade point average. Advisor signature is required on the Fifth Course Petition Form. A fifth course that results in more than 9 course registrations for a single academic year may carry an additional tuition charge, in accordance with the overload policy.

• **Room and Board**: Students taking Intersession (or have a valid reason verified by Residence Life) may live on campus during Intersession and will not be billed separately for room and board. Consult with Residence Life office regarding summer room and board.

• **Business Office**: Any questions or issues about billing may be directed to the Business Office, Thompson Hall ground floor, 724-223-6014.

DISABILITY SUPPORT SERVICES
Washington & Jefferson College is committed to providing academic accommodations for students with disabilities. This includes 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 of Academic Advising 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 Liz McClintock at 724-223-6008 or dss@washjeff.edu. Office Location: U. Grant Miller Library, ground floor.
GUIDELINE FOR CLASS LEVELS
Freshman: 0–7 courses or 1–31 credits; Sophomore: 8–15 courses or 32–63 credits; Junior: 16–24 courses or 64–99 credits; Senior: 25+ courses or 100+ credits

ADVANCED PLACEMENT (AP), INTERNATIONAL BACCALAUREATE (IB), and TRANSFER COURSES
- AP credit policies vary by department; students must send official test reports to the Registrar’s Office.
- An IB course must be equivalent to a W&J course (academic course, 3 or 4 credits, C- or higher); students must send official transcripts to the Registrar’s Office.
- Students must complete a course approval form for transfer credit and get pre-approval before taking a course elsewhere; Department Chairs approve transfer courses in their area of discipline and ones that fulfill major, minor, and program requirements; the Associate Dean approves courses meeting general education requirements.

SATISFACTORY / UNSATISFACTORY (S/U)
- Grade of C or higher = S
- 10 days after midterm advisee may change course to S/U (requires submission of a S/U form).
- S/U changes are final; students may not revert an S/U course back to a graded course.
- S/U may not be used for major/minor courses, First Year Seminar, or English Composition.
- May take two courses S/U in college career.
- Health and Wellness (PHA/PHW) courses are S/U and do not count toward the two course S/U limit.
- S/U does not impact a student’s GPA.

COURSE POLICIES AND INFORMATION
- Course Repeat Policy: If a student repeats a course, both courses and grades appear on the transcript, but only the most recent course and grade are factored into the student’s GPA and count toward graduation requirements, even if the most recent grade is lower. A student gets credit only once for the same course, even if the student passes the course multiple times.

- Fifth Course Policy: A fifth course can be taken by any student who has completed one semester on campus. The student must be in good academic standing and have the required grade point average. Advisor signature is required on the Fifth Course Petition Form. A fifth course that results in more than 9 course registrations for a single academic year may carry an additional tuition charge, in accordance with the overload policy.

- Waitlisted Courses: Students can waitlist closed courses through WebAdvisor during registration. When a spot is available, a student is notified via an email from the Registrar. The student has a limited amount of time to respond and confirm registration for the course. Students should still register for a full-time course load even if they prefer the waitlisted courses. Waitlists are removed the first day of class, so any spots that become available during the add/drop period are open to all students.

*REFER TO COLLEGE CATALOG FOR ALL W&J GUIDELINES AND POLICIES
CURRICULUM – 2016 Catalog Year and Forward
The curriculum below applies to students starting Fall 2016 and forward. Notes from CPC1415-23:
• The curriculum has 3 main categories: Foundations, Breadth and Depth.
• Foundations courses identify college-wide requirements that should be completed in the first year or two of study.
• There are 6 categories of Breadth courses that each identify an approach to framing questions and allow students to explore themselves and the world.
• Students have more choice in exploring the curriculum with the new Breadth courses.
• The academic majors are expected to support W&J student outcomes more explicitly.

OVERVIEW
32 semester courses + 2 Intersession courses + 4 credits of Physical Activity and Wellness (see PHA/PHW breakdown below)

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 foreign language, diversity, writing, and physical activity and wellness within the first two years of study.

<table>
<thead>
<tr>
<th>Course</th>
<th>Requirement</th>
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<tbody>
<tr>
<td>First Year Seminar</td>
<td>1 course</td>
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<tr>
<td>First Year Composition</td>
<td>1 course</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>2 courses if study begins at first-year level</td>
</tr>
<tr>
<td></td>
<td>1 course if study begins at second-year level</td>
</tr>
<tr>
<td>Writing (WRITE)</td>
<td>1 writing-intensive course in any discipline (can also be a Diversity, Breadth, or Depth course)</td>
</tr>
<tr>
<td>Diversity (DIVER)</td>
<td>1 course (can also be a Writing, Breadth or Depth course)</td>
</tr>
<tr>
<td>Physical Activity and Wellness</td>
<td>Equivalent of 1 full course and distributed as follows:</td>
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<td></td>
<td>• 2 credits of Physical Activity (PHA)</td>
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<tr>
<td></td>
<td>• 2 credits of Health and Wellness (PHW)</td>
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<tr>
<td></td>
<td>DOES NOT APPLY TO 32+2 COURSE REQUIREMENT</td>
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II. BREADTH
These courses promote understanding within and between disciplines.

<table>
<thead>
<tr>
<th>Category</th>
<th>Requirement</th>
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<tr>
<td>Artistic (ARTIS)</td>
<td>One from each category, plus three additional, each from a different category (9 courses total). Students may count at most three courses offered by a single department or interdisciplinary program towards their breadth requirements (courses with the same prefix: POL, BUS, etc.)</td>
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<tr>
<td>Behavioral (BEHAV)</td>
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<tr>
<td>Historical (HISTO)</td>
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<tr>
<td>Literary (LITER)</td>
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<tr>
<td>Logical (LOGIC)</td>
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<tr>
<td>Scientific (SCIEN)</td>
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III. DEPTH
The academic major promotes 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.

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<th>Academic Major</th>
<th>Requirement</th>
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<tr>
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<td>Minimum of 8 courses, including capstone experience</td>
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OTHER: Intersession 2 courses
NOTES

- Students must take **32 semester courses + 2 Intersession courses + 4 credits of Physical Activity and Wellness Education.** This means students must successfully complete 4 courses each semester and take Physical Activity and Wellness in addition to those 4 courses. Intersession is taken during Intersession term.

- **Intersession** courses do not apply to the 32 semester-course graduation requirement, even if a student takes additional Intersession courses beyond 2. These courses may meet one of the curriculum requirements if indicated in WebAdvisor. An Intersession internship counts as an Intersession course. Grades for Intersession courses are calculated into the student’s GPA.

- MUA courses, COM 242 and COM 252, EDU 250, MTH 320, MTH 420, PHY 441, PHY 442, BIO 301, or freshman and sophomore-level ROTC courses (MSC 101, 102, 201, and 202) can be combined and count toward the 32 semester-course graduation requirement.

- **Physical Activity and Wellness (PHA/PHW)** courses should be taken in addition to a standard fall/spring course load (4 academic courses). PHA or PHW courses do not apply to the 32 semester courses required. Students should be careful not to take PHA or PHW as their 4th course. One season of participation in a varsity sport counts as 2 credits toward the Physical Activity (PHA) portion of this requirement. Students will be required to submit paperwork and have their coach confirm their participation to receive credit for PHA.

- Students will need to make up courses they withdrew from or failed by taking summer classes, taking a 5th course during the fall/spring, or transferring in courses unless they already have extra credits on their record (For example, a student may have AP credit from high school).

- Students should have room for approximately 8-10 **elective** courses that do not meet a specific curricular or major requirement. Students with double majors or minors have room for fewer electives.

**PREVIOUS CURRICULUM – 2015 Catalog year and prior**

OVERVIEW: 32 semester courses + 2 Intersession courses + 4 credits of Physical Education and Wellness (PED)

- **First Year Seminar**
- **Breadth of Study:** 8 courses - designated as follows
  - Art (A): 1 course
  - Humanities (Hum): 3 courses from two different departments
  - Social Science (SSC): 2 courses from two different departments
  - Natural Science & Math (NSM): 2 courses from two different departments. 1 course must be a lab science (NSM-L).
- **Diversity:** 1 course
- **Academic Skills:** 5 courses – must be designated as follows
  - Writing (W): ENG 111/112 plus 2 more courses from two different departments.
  - Oral Communication (C): 1 course
  - Quantitative Reasoning (Q): 1 course
- **Foreign Language**—2 courses if beginning at intro level or 1 course at intermediate
- **Major Requirements**—8 to 10 course minimum with a capstone experience
- **2 Intersession courses**
- **Physical Education and Wellness**—4 credits (typically 2 courses at 2 credits each)
COMPOSITION
As part of the writing academic skills requirement, all students must complete an intensive freshman writing course. The two courses that qualify are ENG 111 and ENG 112. The English Department chair determines placement.
- ENG 111 (Composition)—For the majority of students. Students with an SATV below 500 or an ACT-E below 18 should take ENG 111 in the fall term, if possible. Eager students are welcome to petition the department chair for admittance to 112.
- ENG 112 (Honors Composition)—For students with strong verbal abilities, that is, SATV, SATW, or ACT-E scores in the 90th percentile or higher or with extremely strong high school GPAs (see the placement list for names). About 15% of incoming students are assigned to 112. Students may self-select between fall and spring terms.

CAVEATS
- Students who have taken the AP Test in English Language and Composition should hold off taking composition until the spring term so the College can get their scores: a 4 or a 5 will exempt a student from the requirement.
- Students placed into ENG 112 may not take ENG 111.
- Students who plan to transfer in a composition course from another college should hold off taking composition until spring term and see the English department chair before registering for ENG 111 or 112.

LANGUAGE
All students must complete a language requirement of one year at the introductory level (105 and 106; 106 and 207), or one term at the intermediate level (207). All entering students must receive a language placement for the languages they have studied, even if they plan to take a different language.

PLACEMENT PROCEDURE
Placement for all languages is determined prior to arrival on campus through completion of the language profile questionnaire and writing sample. Additional factors taken into consideration are: previous academic coursework in the language, including AP and IB courses and exam scores, the student’s experiences abroad, and any other exposure to the language and culture. Language program directors may adjust placement in consultation with the individual student.

Fulfillment of the language requirement:
- If placed in 105 or 106, students must take two semesters of the same language. Students must complete 105 & 106 OR 106 & 207 of the same language. A student cannot take 105 or 106 in one language and take the subsequent course in a different language.
- Students who place in 207 will take 207 only.
• Students who place in 208 or above automatically fulfill the language requirement. *NOTE:* 
Advanced placement requires verification in person with the program director of that language and written confirmation.

• Any courses taken below the student’s official placement will not count towards fulfillment of the language requirement.

• Students who have completed at least two years of their secondary education (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 may petition for satisfaction of the language requirement in languages the Department does not currently teach via the Chair of Modern Languages.

• Courses in modern languages from online institutions or courses taught from other institutions primarily using distance-learning technology are not accepted for transfer credit in fulfillment of the language requirement.

Any questions or concerns concerning language placement or language courses should be directed to the appropriate program director or to the Modern Languages Department Chair.

NOTES
• Students and advisors can find language placement information online in W&J Informer.

• Students may start at 105 in any language in which they have no experience. Currently, W&J offers six languages: *Arabic, Chinese, French, German, Russian,* and *Spanish.*

• Students should start their language studies as soon as possible, ideally during their first year at W&J. Since they are blocked from registering for courses below their level of placement, it is easiest for students to take their language requirement courses during their first year of study at W&J.

• **105 (Beginning I) is for true beginners** and those with one year or less of HS study, 106 (Beginning II) for students with 2 -3 yrs, 207 and above (3-4 years+ depending on the student). Students with 4+ years of HS language will not be placed below 207.

• **STUDY ABROAD REQUIREMENT:** All language majors must spend a minimum of one semester, or the academic equivalent, on a study abroad program, course of study, or internship approved by the language program director in-line with the College study abroad guidelines. Please consult with a language program director should you be interested in majoring to find the best program of study to suit your needs. A cumulative GPA of 2.5 is required to study abroad.

• Students are encouraged to start at the highest possible level. Elementary and Intermediate courses are regularly offered “off-sequence,” so students can sign up for 105 or 106 in both fall and spring semesters.
• Advanced placement students are often only 6 or 7 courses away from a major in a modern language.

• Interrupting foreign language study for a term or year may have a negative effect on students’ language development.

• Students can double major in languages.

**MATHEMATICS**

Note the three math “tracks.” Majors in

- Math/Science/Financial Economics: 111 → 151 → 152 → 208
- Accounting/Business/Economics*: 101 → 131 → 125
- Elementary Education: 123 → 124

*The Economics/Business Department recommends that Economics majors take MTH 151 rather than MTH 131. Students cannot receive credit for both MTH 131 and MTH 151.

Students must take placement exam; that and high school background determine math course placement; note score guidelines below:

- **0–11:** Proceed with caution, start with MTH 101 (Intro to Functions)
- **12–18:** Start with MTH 111 (Precalculus) if student intends to take MTH 151 (Calculus I); if student is not intending to take MTH 151, then MTH 111 is not the right choice; consider MTH 115 or MTH 123
- **15+:** May enroll in MTH 131 (Business Calculus) or MTH 125 (Probability & Statistics) spring term only for freshmen; MTH 125 is generally not recommended for freshmen
- **19+:** May enroll in MTH 151 or MTH 125; or, in a few exceptional cases, may enroll in MTH 152 with Calculus I course credit, or even MTH 208, but 152/208 enrollment is based chiefly on AP and “college in high school” credit and not primarily on placement score. When in doubt, consult the course instructor or the chair of the Math Department.

Don’t ignore the placement score and enroll student in a higher-level math course. Refer students with placement questions to the chair of the Math Department (Ryan Higginbottom), or the Math Placement Coordinator (Kim Jones).

**Students interested in the engineering program should take Calculus I first term freshman year:** a freshman with a math placement score below the range for Calculus I should contact the dual-degree engineering liaison or the chair of the Math Department before being placed.
NOTES ABOUT SPECIFIC COURSES

- MTH 101—Introduction to Functions; college algebra; preparatory course for MTH 131; doesn’t contain trigonometry; doesn’t carry NSM or LOGIC designations; not open to seniors

- MTH 111—Precalculus; preparatory course for MTH 151 (Calculus I) and nothing else; includes trigonometry and doesn’t carry NSM or LOGIC designations. BIG MISTAKE: Advising students to take 111 if they don’t plan to take MTH 151

- MTH 115—Mathematics in Our World; course for “non-math” students; carries Q-skill designation only; not open to juniors or seniors

- MTH 123 & 124—Nature of Mathematics: Number Systems (123)/Statistics and Geometry (124); primarily for elementary education majors; carry Q-skill designation (2015 and prior) and LOGIC designation (2016 and forward); MTH 123 is only offered in the fall, MTH 124 is only offered in the spring; education majors should take these courses by their sophomore year; non-education majors may take these courses; not open to freshmen or seniors

- MTH 125—Probability & Statistics; renumbered from MTH 225 for Fall 2015; not recommended for freshmen; students may enroll in course without placement score after freshman year; carries Q-skill and NSM designations (2015 and prior) and LOGIC designation (2016 and forward); only students whose placement score is 19+ should consider MTH 125 in the fall freshman year—this cut-off is firm

- MTH 131—Business Calculus; more computational and less challenging than MTH 151; doesn’t contain proofs or trigonometry; carries Q-skill and NSM designations (2015 and prior) and LOGIC designation (2016 and forward); students cannot receive credit for both MTH 131 and MTH 151

- MTH 151—Calculus I; more theoretical than MTH 131; contains proofs and trigonometry, has science and engineering applications; students must work out basic mathematical problems without the use of a calculator; carries Q-skill and NSM designations (2015 and prior) and LOGIC designation (2016 and forward); students cannot receive credit for both MTH 131 and MTH 151

- MTH 152—Calculus II; an acceptable course for qualified first-year students and at the discretion of the Mathematics Department; carries Q-skill and NSM designations (2015 and prior) and LOGIC designation (2016 and forward)

- MTH 170—Applied Linear Algebra; an acceptable course for first-year students with Calculus I credit; carries Q-skill and NSM designations (2015 and prior); offered only in the fall

- MTH 190—Topics in Mathematics; suitability and pre-requisites depend on topic

- BIO/MTH 245—Applied Statistics for the Life Sciences; an alternate to MTH 125; counts for Pre-health requirements and the Biology and Psychology majors; offered only in the spring
AP INFORMATION AND MISCELLANEOUS CAVEATS

- A student who scores 4 or 5 on the AP Calculus exam (AB version) has the option of receiving credit for MTH 151 and proceeding to MTH 152:
  - A student may elect not to accept AP credit and repeat Calculus I material by taking MTH 151;
  - A student may **not** accept AP/transfer credit for Calculus I and take MTH 131/151—this is double-dipping.

- A student who scores a 5 on the AP Calculus exam (BC version) may elect to receive credit for MTH 152 and proceed to MTH 208 (Multivariable Calculus) and should consult with the Mathematics Department on placement.

- A student who scored a 5 on the AP (BC version) may elect not to receive credit and repeat the material by taking MTH 152.

- A student who scores 4 or 5 on the AP Statistics exam will receive credit for MTH 125 and Q credit but not NSM credit.

- A student may **not** receive credit for both MTH 151 and MTH 131 (Business Calculus); this is double-dipping.

- Students will occasionally wish to use MTH 131 as an entry point into MTH 152. This is an *extremely* difficult transition. Advise such students to do independent work to review Precalculus skills (such as Kahn Academy) and contact either the course instructor for MTH 152 or the chair of the Mathematics Department for placement advice.
## AREAS OF STUDY

### Majors

All W&J students must complete a major to graduate.

- Accounting
- Art
- Art Education
- Biochemistry
- Biological Physics
- Biology
- Business Administration
- Chemistry
- Child Development and Education
- Communication Arts
- Computing and Information Studies
- Economics
- English
- Environmental Science
- Environmental Studies
- Financial Economics
- French
- Gender and Women’s Studies
- German
- History
- International Business
- International Studies
- Mathematics
- Music
- Neuroscience
- Philosophy
- Physics
- Political Science
- Psychology
- Public Policy
- Sociology
- Spanish
- Thematic

### Minors

A minor is a course of study with less depth than a major; students are not required to have a minor.

- Accounting
- Art Conservation
- Art History
- Biology
- Business Administration
- Chemistry
- Chinese
- Communication Arts
- Computing and Information Studies
- East Asian Studies
- Economics
- Education – Teacher Cert
- English
- Entrepreneurship
- Environmental Studies
- Financial Economics
- Forensic Science
- French
- Gender and Women’s Studies
- German
- History
- Latin American Studies
- Mathematics
- Mind and Language
- Music
- Neuroscience
- Philosophy
- Physics
- Professional Writing
- Psychology
- Public Policy
- Religious Studies
- Sociology
- Spanish

### Emphases

An emphasis is a specialization offered through a particular major.

- **Business Administration Major:**
  - Entrepreneurship
  - Finance
  - Human Resource Management
  - Marketing
  - Operations Analytics
- **Communication Arts Major:**
  - Film Studies
  - Public Relations
  - Theatre
- **Computing and Information Studies Major:**
  - Big Data
  - Computer Science
  - Digital Media
  - Interaction Design
  - Web and Mobile Technologies
- **Economics Major:**
  - Economic Development
  - Financial Economics
- **Any major (per approval):**
  - Thematic

### Concentrations

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

- American Studies
- Computational Science
- Conflict and Resolution Studies
- Entrepreneurship
- Graphic Design
- Interfaith Leadership Studies
- Professional Writing
- Russian Area Studies

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### Pre-Professional & Special Programs

- Education (Grades 4-8 and Secondary Certification)
- Dual-degree Engineering
- Pre-Health
- Pre-Law
The American Studies concentration is a four-course cluster available to students in any major. The concentration offers an interdisciplinary examination of American culture and what it means to be American.

FACULTY CONTACT
Dr. Karin Maresh, Communication Arts

CONCENTRATION REQUIREMENTS
Four courses:
- Three courses from the affiliated course list; these courses must be selected from at least two departments.
- AMS 300: American Studies Seminar, which is generally offered every spring in odd-numbered years.

IMPORTANT PIECES OF ADVICE
- Students may take three affiliated courses before enrolling in AMS 300, or may take two courses as prerequisites and one course concurrently with AMS 300.
- The American Studies concentration is a good way to satisfy many college-wide requirements because it includes courses in several departments.
- The concentration provides a helpful background for students preparing for careers in law, government, writing, the arts, international affairs, education, and others.
The Department of Art is dedicated to teaching studio art, art education, and the history of art and to advising majors in an atmosphere that encourages cooperation and independence among faculty and students. The department offers majors in studio art and art education and a minor in art history.

DEPARTMENTAL MEMBERS TO CONTACT FOR AREAS OF SPECIALIZATION
Dr. John Lambertson, Chair: History of art; 19th- and 20th-century art; graduate study
Ms. Patricia Maloney: Ceramics; sculpture; art education; African art; graduate study
Mr. Patrick Schmidt: Drawing; design; painting; printmaking; graphic design; graduate study

SAMPLE FOUR-YEAR PROGRAM
FRESHMAN YEAR:
Fall Term    Intersession    Spring Term
ART 112
ART 108

SOPHOMORE YEAR:
Fall Term    Intersession    Spring Term
ART 361 or ART 362
ART 363
ARH 101
ARH 102

JUNIOR YEAR:
Fall Term    Intersession    Spring Term
ART 461, 462, or 463
ART 352 or 355
300-level ART course

SENIOR YEAR:
Fall Term    Intersession    Spring Term
ART 461, 462, or 463

RULES OF THUMB REGRADING ENTRANCE ABILITY FOR PARTICULAR COURSES
- Students interested in majoring in art should begin with 100-level ART courses and then take 300-level and eventually 400-level ART courses
- 300-level ARH courses have prerequisites
IMPORTANT PIECES OF ADVICE
- Art majors should take ART 108: 2-D and 3-D Design and/or ART 112: Beginning Drawing first

- Students interested in fulfilling the ARTS or ARTIS breadth requirement should take ART 108, 112, 261, 262, 263 or ARH 101, 102

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS
- Students do not have to take ARH 101 before ARH 102

- Students may not take ART 261, 262, or 263 for the Art major
ART CONSERVATION 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 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 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 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 “The Art Conservation of Paintings” (CHM 333, offered during Intersession), 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.

RULES OF THUMB REGARDING ENTRANCE ABILITY FOR PARTICULAR COURSES

CHM 160 and credit for MTH 111 (with a grade of C- or better) are prerequisites for CHM 260; if placed into MTH 111, take this early to be ready for CHM 260.

IMPORTANT PIECES OF ADVICE

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 requirements may also fulfill the art conservation minor requirements.
FACULTY CONTACT
Ms. Patricia Maloney, Professor of Art

EDUCATION COURSES REQUIRED FOR ART EDUCATION
EDU 201—Foundations of Education
EDU 207—Educational Psychology (prerequisite Psychology 101; PSY 102 strongly recommended, but not required)
EDU 301—The Exceptional Learner
EDU 350—Teaching the Diverse Learner (Intersession)
EDU 403—Differentiated Instruction and Assessment
EDU 406—Principles of Curriculum Design
EDU 407—Student Teaching (counts as three courses; must be taken with EDU 406 spring semester of senior year)

NOTE  See the College Catalog and the Education section in the Advisor’s Guide for additional information

SAMPLE FOUR-YEAR PROGRAM
FRESHMAN YEAR:
Fall Term  Intersession  Spring Term
ART 112      ART 108
ENG 111 or 112 ENG 190 or 263

SOPHOMORE YEAR:
Fall Term  Intersession  Spring Term
ART 361 or 363 ART 361 or 363
ARH 101 ARH 102
EDU 201 (internship required) MTH (college level)

JUNIOR YEAR:
Fall Term  Intersession  Spring Term
ART 362 ART 461, 462, or 463
ART 400 EDU 301 (internship required)
ARH 355
EDU 207 (internship required)

SENIOR YEAR:
Fall Term  Intersession  Spring Term
ART 461, 462, or 463 EDU 350 EDU 406
EDU 403 (internship required) EDU 407
Requirements for students applying to the C.O.T.P. for admission to the Secondary Certification Program (generally done by the end of the sophomore year):

- 2 English Courses—ENG 111 or 112 (English Composition) and ENG 190 (Introduction to Literature); if the English Department grants a student course credit for English 190 based on an AP test score, it will fulfill the literature requirement

- 2 College Level Math Courses—(not pre-calculus)

- See the Education Department section of the catalog for additional requirements for admission to the program and details about the application process

RULES OF THUMB REGRADING ENTRANCE ABILITY FOR PARTICULAR COURSES

- Students interested in majoring in art education should begin with 100-level ART courses and then take 300-level and eventually 400-level ART courses

- 300-level ARH courses have prerequisites

IMPORTANT PIECES OF ADVICE

- Majors should take ART 108: 2-D and 3-D Design and/or ART 112: Beginning Drawing first

- 200-level ART courses (261, 262, 263) do not count for the major

- Students interested in ARTS Breadth of Study credit should take ART 108, 112, 261, 262, 263 or ARH 101, 102

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS

- Students do not have to take ARH 101 before ARH 102

- Taking ART 261, 262, or 263 as an Art major

- ART 400 and ARH 355 are offered every other year
FACULTY CONTACT
Dr. John Lambertson, Art & Art History Department

ART HISTORY MINOR REQUIREMENTS
6 courses:
• ARH 101
• ARH 102
• Any four 300-level ARH courses

RULES OF THUMB REGRADING ENTRANCE ABILITY FOR PARTICULAR COURSES
• Students interested in minoring in art history should begin with a or two 100-level ARH course(s) and then take 300-level ARH courses

• 300-level ARH courses have prerequisites

IMPORTANT PIECES OF ADVICE
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.

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS
Students do not have to take ARH 101 before ARH 102
FACULTY CONTACTS
Dr. Candy DeBerry, Director of the Biochemistry Program and Professor of Biology
Dr. Mark Harris, Professor of Chemistry
Dr. Alice Lee, Professor of Biology
Dr. Michael Leonard, Professor and Chair of Chemistry
Dr. Nobunaka Matsuno, Associate Professor of Chemistry

RECOMMENDED FOUR-YEAR PROGRAM
FRESHMAN YEAR:
Fall Term                      Intersession                      Spring Term
BIO 121                       CHM 160                           BIO 131
CHM 160                       CHM 170

SOPHOMORE YEAR:
Fall Term                      Intersession                      Spring Term
BIO 212 or elective course    CHM 260                           MTH 151
PHY 101 or 107                PHY 102 or 108 if not taken

JUNIOR YEAR:
Fall Term                      Intersession                      Spring Term
BIO 212, BIO 311, or elective  PHY 101 or 107 if not taken
PHY 101 or 107 if not taken    PHY 102 or 108 if not taken

SENIOR YEAR:
Fall Term                      Intersession                      Spring Term
Elective course or BIO 311    BCH 320                           BCH 333
BCH 401 (1/2 course)

NOTES
• Students must take an additional 2.5 courses from BIO 201, 202, 235, 314, 317, 412 (depending on
  topic), CHM 320, CHM 350, 380, 385, 420, BCH 500 or 501, or NSC 300; BCH 401 serves as the
  capstone for the Biochemistry major.
• The above represents a sample schedule; students who begin their Biochemistry major later in
  their college career or who have not taken four science courses their freshman year may choose
to take chemistry or physics courses in the summer.
RULES OF THUMB REGARDING ENTRANCE ABILITY FOR PARTICULAR COURSES

- Biochemistry is a challenging interdisciplinary major for strong science students. In order to complete the major in four years, it is desirable that students take two sciences each semester of their first year, preferably BIO 121 and 131 and CHM 160 and 170.

- BIO 121 and 131 and CHM 160 and 170 are challenging courses for incoming freshmen, despite being at the 100-level. BIO 121 and 131 are prerequisites for other biology courses; BIO 121 is a prerequisite for BIO 131.

- CHM 160 (with a grade of a C- or better) is a prerequisite for CHM 170; CHM 160 and credit for MTH 111 (with a grade of a C- or better) are prerequisites for CHM 260

- PHY 101 (or 107) and 102 (or 108) and MTH 151 are prerequisites for BCH 320 (or CHM 360)

IMPORTANT PIECES OF ADVICE

- A total of 16 courses are required for the major

- One required course (BCH 401) and some elective courses are half courses

- There is no Biochemistry minor

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS

Although a number of the requirements for the Biochemistry major will fulfill the Pre-Health requirements, students should be aware that the Biochemistry major requires biophysical chemistry and other advanced courses in biology and chemistry, and was designed to prepare students for graduate studies in Biochemistry or related disciplines (e.g. Cell Biology, Molecular Biology).
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.

DEPARTMENTAL MEMBERS TO CONTACT
The Biology Department strongly encourages students enrolling in biology courses to talk to any of the biology faculty members for additional information. Faculty members and their areas of interest are indicated below:

**Dr. Ronald Bayline** (Associate Professor and Department Chair): rbayline@washjeff.edu
Areas of interest: neurobiology and development biology
Co-curricular areas: neuroscience, pre-health

**Dr. Thomas Contreras** (Associate Professor): tcontreras@washjeff.edu
Areas of interest: behavioral ecology, ecology, and conservation biology
Co-curricular areas: environmental studies, biostatistics, landscape ecology

**Dr. Candy DeBerry** (Professor): cdeberry@washjeff.edu
Areas of interest: cell biology, biochemistry, molecular biology, and forensic science
Co-curricular areas: research internships coordinator, native plants, ecological gardening, and sustainability

**Dr. Jason Kilgore** (Associate Professor): jkilgore@washjeff.edu
Areas of interest: botany, ecology, field biology, biostatistics, and evolution
Co-curricular areas: Campus Arboretum and Ecological Research as Education Network (EREN)

**Dr. Yi-Tak (Megan) Lai** (Assistant Professor): ylai@washjeff.edu
Areas of interest: molecular biology, genomics, virology, and bioinformatics
Co-curricular areas: computational science

**Dr. Alice Lee** (Professor): aglee@washjeff.edu
Areas of interest: genetics, molecular biology, and biochemistry
Co-curricular areas: biochemistry, pre-health

**Dr. James March** (Associate Professor): jmarch@washjeff.edu
Areas of interest: ecology and environmental studies
Co-curricular areas: teaching professions, sustainability

**Dr. Anne McGrain** (Program Coordinator): amcgrain@washjeff.edu
Areas of interest: molecular biology and microbiology

**Dr. Anupama Shanmuganathan** (Associate Professor): ashanmuganathan@washjeff.edu
Areas of interest: microbiology, infectious diseases, and immunology
Co-curricular areas: pre-health
Department: **Biology**  
Major and Minor: **Biology**  
Program: --

**Dr. Kelly Weixel** (Associate Professor): kweixel@washjeff.edu  
Areas of interest: animal physiology and cell biology  
Co-curricular areas: neuroscience

**Dr. Emily Furbee** (Visiting Assistant Professor): efurbee@washjeff.edu

The Biology Department offers three 100-level foundations courses – BIO 111 (Fall and Spring), BIO 121 (Fall), and BIO 131 (Spring), all of which are required for the biology major. The foundations series of courses introduce students to a broad range of topics in biology. Each of these courses includes a guided-inquiry based laboratory component and aims to engage students in a hands-on manner in the process of science and discovery. Students interested in the biology major should begin in BIO 111 or BIO 121. Students not interested in the biology major, but wishing to pursue the pre-health program only, should begin in BIO 121.

**REQUIREMENTS FOR THE BIOLOGY MAJOR**
- The biology major requires 9.5 courses in biology, CHM 160, MTH 111 or 151 (or math placement score equivalents), and a statistics course (BIO 245 or MTH 125).
- All three foundations courses are required for the major and it is highly recommended that all three courses be completed before Junior year.
- The Biology major has been designed so that it allows students to choose upper-level courses that focus on his/her specific interests within biology.
- Two semesters of mathematical sciences (calculus and/or statistics), four semesters of chemistry, and two semesters of physics are strongly recommended for students intending graduate study toward an advanced degree in Biology and are required for students interested in pre-health.

**RECOMMENDED FOUR-YEAR PROGRAM**
It is recommended that students complete the three BIO foundations courses (BIO 111, BIO 121, and BIO 131), CHM 160, and MTH 111 within the first two years. There are various ways of doing so.

*First year and second year:*
BIO 111, BIO 121, BIO 131, a 200-level BIO course, CHM 160 and quantitative proficiency [MTH 111 (or equivalent math placement) and (MTH 125 or BIO 245)]

*Third year:*
Two 200-level BIO courses, a 300-level course, and quantitative proficiency (MTH 125 or BIO 245), if not already completed.

*Fourth year:*
A 300-level course, any upper level BIO course (if less than 9.5 BIO courses), capstone (if not completed in summer), and biology literature research course.
COURSES APPROPRIATE FOR PROSPECTIVE MAJORS
Beginning the foundations biology courses (BIO 111 and / or BIO 121) in the first year is strongly recommended for students considering a major in Biology OR for those pursuing the pre-health program. The biology major can be successfully completed by beginning in biology courses in the second year.

IMPORTANT PIECES OF ADVICE
- BIO 100 and BIO 111 are appropriate for non-biology majors who wish to satisfy general education requirements.
- Students must avoid taking three lab courses in one semester.
- Students should discuss their plans in biology with a biology faculty member.
- All three foundations biology courses are needed for the biology major, while only BIO 121 and BIO 131 are needed for the pre-health program.
- Not all three foundations courses need to be completed before taking 200-level or 300-level BIO courses.
- BIO 131 is not a point of entry for the major.

For more information about current events in the Biology Department, see the W&J Biology Facebook page.

ADVANCED PLACEMENT OF BIOLOGY COURSES
Students who have completed the AP exam in biology with a score of 4 or 5 will receive credit for BIO 100. BIO 100 satisfies the NSM-L component of the College’s general education requirement. Such a student receiving credit for AP BIO courses wishing to continue in the Biology program must still complete the three foundations courses – BIO 111, BIO 121, and BIO 131.
Department: **Biology**  
Major and Minor: **Biology**  
Program: --

(#) below indicates how many courses are required from each section

<table>
<thead>
<tr>
<th>Minor</th>
<th>Major</th>
<th>Course</th>
<th>Offerings in 2015-2016; 2016-2017 and 2017-2018</th>
<th>Prerequisite(s)</th>
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</thead>
<tbody>
<tr>
<td><strong>Organic Chemistry</strong></td>
<td>1</td>
<td>1</td>
<td>CHM 160: Organic chemistry I</td>
<td>Every Fall</td>
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<td><strong>Quantitative proficiency</strong></td>
<td>1</td>
<td>1</td>
<td>MTH 111: Pre-calculus (or math placement equivalent)</td>
<td>Every Fall and Every Spring</td>
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<td></td>
<td></td>
<td>1</td>
<td>MTH 125: Probability and statistics</td>
<td>Every Fall and Every Spring</td>
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<td>Not open to first-semester freshmen</td>
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<td>BIO/MTH 245: Applied statistics for the life sciences</td>
<td>Spring 2017 Spring 2018</td>
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<td>BIO 121. Not open to freshmen</td>
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<tr>
<td><strong>Foundations in biology</strong></td>
<td>1</td>
<td>1</td>
<td>BIO 111: Foundations in evolution and biological diversity*</td>
<td>Every Fall Every Spring</td>
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<td>1</td>
<td>BIO 121: Foundations in cellular and molecular biology§</td>
<td>Every Fall</td>
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<td>CHM 160 (can be taken in the same semester as a corequisite)</td>
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<td>1</td>
<td>BIO 131: Foundations in organismal biology</td>
<td>Every Spring</td>
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<td>BIO 121</td>
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<td><strong>200-level courses</strong></td>
<td>1</td>
<td>3</td>
<td>BIO 201: Genetics</td>
<td>Every Spring</td>
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<td>BIO 121 and BIO 131</td>
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<td>BIO 205: Invertebrate zoology</td>
<td>Fall 2016</td>
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<td>BIO 111 or BIO 131</td>
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<td>BIO 209: Vertebrate anatomy</td>
<td>Every Spring</td>
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<td>BIO 111 or BIO 131</td>
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<td>BIO 212: Cell biology</td>
<td>Every Fall</td>
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<td>BIO 121</td>
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<td>BIO 215: Microbiology</td>
<td>Fall 2015 Spring 2017 Spring 2018</td>
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<td>BIO 121</td>
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<td>BIO 219: Field biology</td>
<td>Fall 2016 Fall 2017</td>
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<td>BIO 111</td>
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<td></td>
<td>BIO 235: Animal physiology</td>
<td>Every Fall</td>
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<td>BIO 121 and BIO 131</td>
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<td>BIO 250: Plant diversity</td>
<td>Spring 2017</td>
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<td>BIO 111</td>
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<td>BIO 288: Conservation biology</td>
<td>Spring 2016 Spring 2018</td>
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<td></td>
<td>BIO 111 or EVS 100 or EVS 101</td>
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<td>Course</td>
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<tr>
<td>BIO 302: Developmental biology</td>
<td>300</td>
<td>Fall 2017</td>
<td>BIO 201 or BIO 212</td>
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<tr>
<td>BIO 306: Animal behavior</td>
<td>300</td>
<td>Fall 2016, Fall 2017</td>
<td>Any 200-level course from BIO, EVS, NSC or PSY</td>
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<tr>
<td>BIO 311: Molecular biology</td>
<td>300</td>
<td>Every Fall</td>
<td>CHM 160, CHM 170 and BIO 201 or BIO 215, or BCH 333</td>
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<tr>
<td>BIO 314: Immunology</td>
<td>300</td>
<td>Spring 2016, Fall 2017</td>
<td>BIO 212 or BIO 201 or BIO 215 or BIO 235 or BCH 333</td>
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<tr>
<td>BIO 317: Genomics</td>
<td>300</td>
<td>Spring 2016, Spring 2018</td>
<td>BIO 201 or BIO 212 or BIO 215 or BIO 311</td>
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<td>BIO 318: Medical microbiology</td>
<td>300</td>
<td>Fall 2016</td>
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<td>BIO 320: Ecology</td>
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<td>Spring 2017</td>
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<td>BIO 350: Environmental plant physiology</td>
<td>300</td>
<td>Spring 2018</td>
<td>BIO 250</td>
<td></td>
</tr>
<tr>
<td>BIO 351: Virology</td>
<td>300</td>
<td>Spring 2017</td>
<td>BIO 201 or BIO 212 or BIO 215 or BCH 333</td>
<td></td>
</tr>
<tr>
<td>BCH 333: Biochemistry</td>
<td>300</td>
<td>Every Spring</td>
<td>BIO 121, BIO 131, CHM 160, CHM 170, CHM 260, CHM 270. One additional 200-level BIO course is highly recommended.</td>
<td></td>
</tr>
<tr>
<td>NSC 300: Experimental neuroscience</td>
<td>300</td>
<td>Every Spring</td>
<td>BIO 131 or NSC 210</td>
<td></td>
</tr>
</tbody>
</table>

**Upper-level biology elective**

<table>
<thead>
<tr>
<th>Course</th>
<th>Level</th>
<th>Description</th>
<th>Offered</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any 200 / 300 / 400 / 500 level BIO course</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Biology literature research course**

<table>
<thead>
<tr>
<th>Course</th>
<th>Level</th>
<th>Description</th>
<th>Offered</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 401: Biology seminar</td>
<td>300</td>
<td>Every Fall, Every Spring</td>
<td>BIO 111, BIO 121, BIO 131, and any BIO 200-level course and any BIO 300-level course</td>
<td></td>
</tr>
<tr>
<td>BCH 401: Biochemistry seminar</td>
<td>300</td>
<td>Every Spring</td>
<td>BIO 212, BIO 311, and BCH 333</td>
<td></td>
</tr>
<tr>
<td>NSC 400: Advanced topics in neuroscience</td>
<td>300</td>
<td>Every Spring</td>
<td>NSC 210 and NSC 300</td>
<td></td>
</tr>
</tbody>
</table>

**Biology capstone**

<table>
<thead>
<tr>
<th>Course</th>
<th>Level</th>
<th>Description</th>
<th>Offered</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 412: Experimental biology</td>
<td>300</td>
<td>Every Fall, Every Spring</td>
<td>BIO 111, BIO 121, BIO 131, and other courses specified by instructor</td>
<td></td>
</tr>
<tr>
<td>BIO 500/501: Independent study in biology</td>
<td>300</td>
<td>Every Fall, Every Spring</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Biology community engagement**

<table>
<thead>
<tr>
<th>Course</th>
<th>Level</th>
<th>Description</th>
<th>Offered</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biologically-related service activity approved by Dr. March, the Coordinator of Community Engagement</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*: Entry point for major
$: Possible entry point for major. Entry point for non-biology pre-health students
FACULTY CONTACTS
For Chemistry majors: Anyone in department
For Chemistry/Pre-Health: Drs. Harris, Brletic, and Malinak

RULES OF THUMB REGARDING ENTRANCE ABILITY FOR PARTICULAR COURSES
• Since Calculus I and II (MTH 151 and 152) are required of all Chemistry majors, a reasonable background in high school math (algebra, geometry, trig., pre-calc.) will serve the student well.

• CHM 160 (with a grade of a C- or better) is a prerequisite for CHM 170; CHM 160 and credit for MTH 111 (with a grade of C- or better) are prerequisites for CHM 260; if placed into MTH 111, take this during the first year to be ready for CHM 260.

• Students should have a minimum SAT total of 1200 and a PQPA > 3.0 to take both CHM 160 and BIO 121 first semester freshman year; when scheduling two lab sciences for the first year (especially the first term), proceed with caution because it is easy for students to be overwhelmed.

IMPORTANT PIECES OF ADVICE
• Prior to the junior year, the student should ideally complete CHM 160, 170, 260, 270, and MTH 151, 152; these are prerequisites for CHM 360, a junior-level course; if this goal is not met, the Chemistry major may still be completed in four years, but there is a bit less flexibility. Ideally PHY 101, 102 or 107, 108 are also completed prior to the junior year, but this is not a requirement. Chemistry is a highly sequenced major, so plan ahead.

• Chemistry minor: 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.

• Students interested in Pre-Health or pre-engineering should consult with a member of the Chemistry Department as early as possible.

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS
• Student who wish to major in chemistry should take CHM 160 and 170 during the freshman year or it may be necessary to attend summer school.

• If a potential Pre-Health student only wants to take one lab science in his/her first semester freshman year, that course should be CHM 160. If in doubt, please seek advice from the Biology or Chemistry Departments or from the Chair of the Committee on Health Professions.
Department: Chemistry
Major and Minor: Chemistry
Program: American Chemical Society Approved

RECOMMENDED FOUR-YEAR PROGRAM

FRESHMAN YEAR:
- Fall Term
  - CHM 160
  - MTH 151
- Intersession
- Spring Term
  - CHM 170
  - MTH 152

SOPHOMORE YEAR:
- Fall Term
  - CHM 260
  - PHY 107 or 101
- Intersession
- Spring Term
  - CHM 270
  - PHY 108 or 102

ACS CHM majors must complete MTH 151, MTH 152, and two PHY courses before their junior year

JUNIOR YEAR:
- Fall Term
  - CHM 300
  - CHM 360
  - MTH 170, 208, 308, or 217
- Intersession
- Spring Term
  - CHM 370
  - CHM course (as needed)

SENIOR YEAR:
- Fall Term
  - CHM 470
  - CHM 385 (1/2 course)
  - CHM course (as needed)
- Intersession
- Spring Term
  - CHM 380 (1/2 course)
  - CHM 460
  - CHM course (as needed)

NOTES
- CHM 365 (1/2 course) is a requirement and may be taken any time during the junior or senior year provided the student is enrolled in or has taken CHM 360 or CHM 370.
- CHM 500 is a requirement and may be taken any time during the junior or senior year.
- To fulfill the capstone requirements, students must complete CHM 365 with a C- or better and take a comprehensive exam senior year.
- The ACS-certified major assures breadth of coverage in chemistry and is ideal for students preparing for graduate school.
- MTH 170, 208, 217, or 308 is a requirement and may be taken as offered in either the sophomore, junior, or senior year; the best time to take this course is before CHM 360 or CHM 370.
RECOMMENDED FOUR-YEAR PROGRAM

FRESHMAN YEAR:
Fall Term | Intersession | Spring Term
--- | --- | ---
CHM 160 | | CHM 170
MTH 151 | | MTH 152
PSY 101 | | |

SOPHOMORE YEAR:
Fall Term | Intersession | Spring Term
--- | --- | ---
CHM 260 | | CHM 270
PHY 101 or 107 | | PHY 102 or 108
EDU 201 (internship required)

CHM majors seeking high school teaching certification must complete MTH 151, MTH 152, and two PHY courses before their junior year

JUNIOR YEAR:
Fall Term | Intersession | Spring Term
--- | --- | ---
CHM 300 | | CHM 370
CHM 360 | | CHM course(s) as needed
EDU 207 (internship required) | | EDU 301
BIO 121

SENIOR YEAR:
Fall Term | Intersession | Spring Term
--- | --- | ---
EDU 403 | | EDU 406
| | EDU 407

NOTES
• CHM 365 (1/2 course) is a requirement and may be taken any time during the junior or senior year provided the student is enrolled in or has taken CHM 360 or CHM 370.

• CHM 380 (1/2 course) or CHM 385 (1/2 course) is a requirement and should be taken in the junior or senior year.

• An additional (1) CHM course numbering 300 or above should be taken in the junior or senior year.

• To fulfill the capstone requirements, students must complete CHM 365 with a C- or better and take a comprehensive exam senior year.
RECOMMENDED FOUR-YEAR PROGRAM

FRESHMAN YEAR:
Fall Term     Intersession     Spring Term
CHM 160      CHM 170
MTH 151      MTH 152

SOPHOMORE YEAR:
Fall Term     Intersession     Spring Term
CHM 260      CHM 270
PHY 107 or 101 PHY 108 or 102

General CHM majors should ideally complete MTH 151, MTH 152, and two PHY courses before their junior year

JUNIOR YEAR:
Fall Term     Intersession     Spring Term
CHM 300      CHM 370
CHM 360      CHM course (as needed)

SENIOR YEAR:
Fall Term     Intersession     Spring Term
CHM course(s) as needed CHM course(s) as needed

NOTES
• CHM 365 (1/2 course) is a requirement and may be taken any time during the junior or senior year provided the student is enrolled in or has taken CHM 360 or CHM 370.

• CHM 380 (1/2 course) or CHM 385 (1/2 course) is a requirement and should be taken in the junior or senior year.

• An additional (1) CHM course numbering 300 or above should be taken in the junior or senior year.

• To fulfill the capstone requirements, students must complete CHM 365 with a C- or better and take a comprehensive exam senior year.
The Communication Arts major can be general or taken with one of three emphases: Film Studies, Public Relations, or Theatre.

DEPARTMENTAL MEMBERS TO CONTACT FOR AREAS OF INTEREST
William Cameron (Professor, Advisor): bcameron; 010 Burnett; ext. 5270
Areas of interest: acting, directing, playwriting, radio drama, film studies

Melissa Cook (Associate Professor, Advisor): mcook; 012 Burnett; ext. 3345
Areas of interest: public relations, rhetoric, public speaking

Scott Frank (Professor, Advisor): sfrank; 006 Burnett; ext. 6136
Areas of interest: playwriting, screenwriting, narrative theory, storytelling

Karin Maresh (Associate Professor, Advisor): kmaresh; 005 Burnett; ext. 3342
Areas of interest: film studies, theatre and media history, musical theatre

Daniel Shaw (Assistant Professor; Director, Olin Fine Arts Center): dshaw; 210 Olin; ext. 6085
Areas of interest: children’s theatre, set design, lighting

REQUIREMENTS FOR MINOR AND GENERAL COMMUNICATION ARTS MAJOR

<table>
<thead>
<tr>
<th>Course</th>
<th>Prerequisite(s)</th>
<th>Major</th>
<th>Minor</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 101 Intro to Rhetoric and Communication</td>
<td>Required</td>
<td>Take 1</td>
<td></td>
</tr>
<tr>
<td>COM 102 Introduction to Theatre and Film</td>
<td>Required</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM 111 History of Communication Arts pre-1875</td>
<td>Required</td>
<td>Take 111 or 112</td>
<td></td>
</tr>
<tr>
<td>COM 112 History of Communication Arts post-1875</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM 198 Internship</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM 211 Acting: Improv, Analysis, and Performance</td>
<td></td>
<td>Take 3</td>
<td>Take 2</td>
</tr>
<tr>
<td>COM 221 Public Speaking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM 242 Radio Performance or Production</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM 251 Stagecraft: Theatre Production and Design</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM 252 Theatre Performance or Production</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM 261 Film Form and Genre</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM 271 Narrative Theory and Performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM 281 Introduction to Public Relations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM 291 Topics in Communication Arts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM 301 Research Methods in Communication Arts</td>
<td>101, 102, 111, or 112</td>
<td>Required</td>
<td>Take 2</td>
</tr>
<tr>
<td>COM 311 Advanced Public Speaking</td>
<td>301; 221</td>
<td></td>
<td>Take 2</td>
</tr>
<tr>
<td>COM 321 Cultural Studies in Communication Arts</td>
<td>301</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM 341 Radio Drama and Documentary</td>
<td>301</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM 351 Writing for Stage and Screen</td>
<td>301; 261 or 271</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM 361 Film in Context</td>
<td>301; 261</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM 381 Public Relations Research and Strategies</td>
<td>301; 281</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM 382 Public Relations Campaigns</td>
<td>301; 281</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM 391 Advanced Topics in Communication Arts</td>
<td>301</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COM 401 Senior Capstone</td>
<td>301; 1 other 300-level</td>
<td>Required</td>
<td>NA</td>
</tr>
</tbody>
</table>

10 total 6 total
All majors must take 101, 102, 301, and 401. Other courses required for emphases:

<table>
<thead>
<tr>
<th>Film Studies</th>
<th>Public Relations</th>
<th>Theatre</th>
</tr>
</thead>
<tbody>
<tr>
<td>112 History post-1875</td>
<td>112 History post-1875</td>
<td>111 History pre-1875</td>
</tr>
<tr>
<td>211 Acting</td>
<td>221 Public Speaking</td>
<td>211 Acting</td>
</tr>
<tr>
<td>261 Film Form/Genre</td>
<td>2xx Elective*</td>
<td>251 Stagecraft</td>
</tr>
<tr>
<td>2xx Elective</td>
<td>COM 281 Intro to PR</td>
<td>271 Narrative Theory</td>
</tr>
<tr>
<td>351 Writing: Stg/Scr</td>
<td>COM 381 PR: Res/Str</td>
<td>341 Radio Drama/Doc</td>
</tr>
<tr>
<td>361 Film in Context</td>
<td>COM 382 PR: Camp.</td>
<td>351 Writing Stg/Scr</td>
</tr>
</tbody>
</table>

*recommended electives for the PR emphasis include COM 198 (Internship); CIS 245 (Information Visualization); CIS 271 (Digital Media); CIS 275 (Web Design and Development).

Courses offered every semester:
- 101 Introduction to Rhetoric and Communication
- 102 Introduction to Theatre and Film
- 221 Public Speaking (2 sections)
- 242 Radio Performance or Production (1 credit)
- 251 Stagecraft: Theatre Production and Design
- 252 Theatre Performance or Production (1 credit)
- 401 Senior Capstone

Every Fall:
- 111 History of Communication Arts, Pre-1875
- 261 Film Form and Genre
- 301 Research Methods in Communication Arts

Every Spring:
- 112 History of Communication Arts, Post-1875

IMPORTANT PIECES OF ADVICE
- Emphases are available only to Com Arts majors.
- There are no prerequisites for 100- or 200-level courses.
- No seniors in 100-level courses. One third of seats in 100-level courses are reserved for first-year students, one third for sophomores, and one third for juniors. One fourth of seats in 200-level courses are reserved for each class.
- Declared majors can pre-register for Com Arts courses by using a Course Petition Form (Registrar’s Office), signed by the instructor, adviser, or department chair.
- COM 198 Internship is counted as a 200-level course in the major/minor requirements.
- COM 242 Radio Performance or Production and COM 252 Theatre Performance or Production are one-credit courses designed for non-majors. They may be taken up to four times each. No additional tuition charged for these courses when taken with a usual four-course load in a given semester.
- Potential majors and minors can contact the department chair to be added to the department Sakai site to access advising resources and receive email updates. Sakai site to access advising resources and receive email updates.
Department: Computing and Information Studies
Major and Minor: Computing and Information Studies (CIS)
Emphases: Big Data, Computer Science, Digital Media, Interaction Design, Web and Mobile Technologies
Concentrations: Computational Science, Graphic Design, Professional Writing

DEPARTMENTAL MEMBERS TO CONTACT FOR AREAS OF SPECIALIZATION
Professor Fee: Digital media, graphic design, digital video, web development, mobile applications
Professor Hannon: I.T. & society, interaction design, information visualization
Professor Holland-Minkley: Computer science, programming, artificial intelligence, information security
Professor Hallenbeck: Databases, data analysis, and computational science

RECOMMENDED FOUR-YEAR PROGRAM
FRESHMAN YEAR:

<table>
<thead>
<tr>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 100- or 200-level</td>
<td>Core/Elective</td>
<td>CIS 100- or 200-level</td>
</tr>
<tr>
<td>ENG 111 or 112</td>
<td></td>
<td>Core/Elective</td>
</tr>
<tr>
<td>First Year Seminar</td>
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<td>Core/Elective</td>
</tr>
<tr>
<td>Core/Elective</td>
<td></td>
<td>Core/Elective</td>
</tr>
</tbody>
</table>

SOPHOMORE YEAR:

<table>
<thead>
<tr>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 100- or 200-level</td>
<td>Core/Elective</td>
<td>CIS 100- or 200-level</td>
</tr>
<tr>
<td>Core/Elective</td>
<td></td>
<td>Core/Elective</td>
</tr>
<tr>
<td>Core/Elective</td>
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<td>Core/Elective</td>
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<tr>
<td>Core/Elective</td>
<td></td>
<td>Core/Elective</td>
</tr>
</tbody>
</table>

JUNIOR YEAR:

<table>
<thead>
<tr>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 301 or 310</td>
<td></td>
<td>CIS Elective</td>
</tr>
<tr>
<td>CIS Elective</td>
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<td>CIS Elective</td>
</tr>
<tr>
<td>Core/Elective</td>
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<td>Core/Elective</td>
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<td>Core/Elective</td>
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<td>Core/Elective</td>
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</table>

SENIOR YEAR:

<table>
<thead>
<tr>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS Elective</td>
<td></td>
<td>CIS 400</td>
</tr>
<tr>
<td>CIS Elective</td>
<td></td>
<td>Core/Elective</td>
</tr>
<tr>
<td>Core/Elective</td>
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<td>Core/Elective</td>
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<tr>
<td>Core/Elective</td>
<td></td>
<td>Core/Elective</td>
</tr>
</tbody>
</table>
NOTES

- While we recommend that students try to complete their core CIS courses by the end of their sophomore year because these are prerequisites for upper level courses, there can be some flexibility so long as the student is making progress towards the CIS requirements.

- In general, 100, 112, 220, 271, 275, and one of 301 or 310 will be offered every year, and other courses will be offered at least every other year. Students should consult the CIS chair before making assumptions about when particular courses will be offered.

RULES OF THUMB REGARDING ENTRANCE ABILITY FOR PARTICULAR COURSES

Students can start with any course at the 100- or 200-level that does not have prerequisites; specifically, students should not avoid 200-level courses and should primarily be guided by interest rather than course number. In general, 100-level courses offer more structure on assignments and projects and 200-level courses require greater student independence, but the content itself and amount of time required are largely the same.

THREE IMPORTANT PIECES OF ADVICE FOR STUDENTS INTERESTED IN HAVING A MAJOR OR A CONCENTRATION OF COURSES IN THIS DEPARTMENT

- CIS is designed as a liberal arts major. Expect to take both applications-based courses and theoretical/historical courses. Do not expect strictly technical training aimed at achieving industry certification.

- CIS is the general major. Computer Science is just one of many emphasis options within the major.

- Students should connect with a CIS professor early for advice on course selection if the are considering the CIS Major or Minor.

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS

- Perception that 100-level courses are low work load.

- Perception that students must begin with a 100-level course. Students interested in the Major/Minor can begin with any 100- or 200-level course.

- Perception that all CIS courses are computer-intensive (some are historical or theoretical).

- Perception that students should "just take a computer class" when looking for a fourth course. Selecting the right CIS course is vital to student success.
The Conflict and Resolution Studies concentration provides students with interdisciplinary and international perspectives on the causes of conflict and the possibilities of resolution. The structure of the concentration provides theoretical insights into the causes of conflict—some positive and creative, but far too many tragically destructive. The concentration courses embrace the study of interpersonal, intergroup, and societal conflicts in different cultures across the world. Exploration of resolution strategies, social justice issues, and leadership qualities are features of the concentration.

FACULTY CONTACTS
Mr. Richard Easton, Professor of English, Program Director for Conflict and Resolution Studies:
Dr. Elizabeth Bennett, Professor of Psychology
Mr. D. Ryan Bunting, Instructor of Education
Dr. Melissa Cook, Associate Professor of Communication Arts
Dr. Robert East, Associate Professor, Director of Environmental Science
Dr. G. Andrew Rembert, Professor of Philosophy

REQUIREMENTS
• CRS 101 – typically offered in the Fall semester
• Three designated affiliated courses from at least two different disciplines other than CRS
  o Examples of affiliated courses include: COM 101, EDU 205, EDU 304, ENG 255 (selected topics), EVS 101, EVS 315, PHL 135, POL 230, POL 231, PSY 225, PSY 390

IMPORTANT PIECES OF ADVICE
• Students interested in the concentration are encouraged to take CRS 101 early.
• Students should be aware that CRS 247 Topics in CRS is frequently taught by Mediators Beyond Borders International peace builders. Mary Montague, fall Maxwell Scholar, Mary Jo Harwood, Prabha Sankaranarayan, CRS adjuncts.

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS
• Not realizing that CRS 101 is currently only offered in the fall
• Waiting to take CRS 101 during their senior year
• Not realizing that CRS 247 provides credit under different topics and currently has no pre-requisites
FACULTY CONTACTS
Dr. Zheya Gai, Director of East Asian Studies (Political Science)
Dr. Patrick Caffrey (History)

REQUIREMENTS
• The minor requires seven courses: two to four language courses in Mandarin Chinese or Japanese (on- or off-campus) and three to five non-language courses on East Asia. Students may choose to do 2 language courses + 5 non-language courses, 3 language courses + 4 non-language courses, or 4 language courses + 3 non-language courses.

• Non-language courses on East Asia: Students may choose three to five courses from the following list (or six in the case of students who are exempt from language studies, as stated above). These courses must be from at least two disciplines, and one of them must be at the 300 level
  o HIS 151 Asian Heritage
  o HIS 250 History of Modern Japan
  o HIS 251 China through Film*
  o HIS 254 Ancient China
  o HIS 256 Chinese History Tour*
  o HIS 255 History of Modern China
  o HIS 350 Contemporary East Asia
  o HIS 352 China through Literature
  o POL 231 Politics of China
  o POL 250 Special Topics: China* or Political Economy of East Asia
  o POL 350 Special Topics: East Asia in World Politics
  o REL 206 Eastern Religious Traditions
  o SOC 247 Special Topics: Japanese Society
  o SOC 251/351 Japan in Japan*

*Intersession or Intersession Abroad Course

RULES OF THUMB REGARDING ENTRANCE ABILITY FOR PARTICULAR COURSES
300-level history courses are intended for juniors and seniors; freshmen and sophomores should consult the instructor before enrolling; see Catalog for prerequisites for HIS 352, POL 350, SOC 250, and SOC 350
IMPORTANT PIECES OF ADVICE

- There is no major in East Asian Studies. Students majoring in International Studies may not minor in East Asian Studies if their area of study and language study within the International Studies major are in East Asia.

- Students who are familiar with Mandarin Chinese or Japanese prior to their enrollment at the College may complete the East Asian Studies minor without taking additional language courses; such students would complete the minor with six non-language courses.

- Language courses in Mandarin Chinese or Japanese: Students may take their language courses all in one language or in both Mandarin Chinese and Japanese.

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS
Believing students must take all language courses in a single language
** Note – Based on 2015 Curriculum Revision – Applicable to Class of 2019 and 2020**

The Department of Economics and Business offers the following majors and minors:

**MAJORS**
- Economics
- Financial Economics
- Business Administration
- International Business
- Accounting

**MINORS**
- Economics
- Financial Economics
- Business Administration
- Entrepreneurship
- Accounting

With two exceptions, the majors offered by the department share a common set of foundation courses, as follows:

- ECN 101 – Principle of Microeconomics
- ECN 102 – Principles of Macroeconomics
- MTH 131 – Business Calculus (or MTH 151 – Calculus)
- MTH 125 – Probability and Statistics
- ACC 211 – Financial Accounting

The exceptions are the Economics major which does not require ACC 211 and the International Business major which does not require MTH 131. Departmental minors require some, but not all, of these foundation courses.

These foundation courses serve as prerequisites for many of the other department course offerings. Delaying the completion of the courses just compounds subsequent scheduling problems.

Many freshmen and sophomore students are certain of their desire to major in one the department’s majors, but are still undecided as to the particular major. Completing these foundation courses during the freshmen and sophomore years will provide the optimum flexibility in choosing a major from the department’s offerings and should represent the student’s intermediate goal with regard to satisfying the requirements for a course of study in the department.

These foundation courses have no prerequisites and may be taken in any order so as to accommodate the student’s overall academic progress, being offered in both the Fall and Spring terms. However, the following should be considered in scheduling the foundation courses during the freshmen and sophomore years:
• ECN 101 and ECN 102 are not sequential courses.

• Optimally, a student wishing to major in accounting should complete all of these foundation courses by the end of the Fall term of the sophomore year. While not recommended, students may still complete the accounting major if some of these courses are delayed beyond that point. However, in no event should ACC 211 be delayed beyond the Spring term of the sophomore year.

• First term freshmen are not prohibited from taking ACC 211. However, if taken in the first term, students could experience a delay of up to two terms until taking the next accounting (ACC) course (see Accounting Major detail). Additionally, this course is a challenge to the study skills/habits of some first-term freshmen. Students should be made aware of these issues before scheduling the course in the first term.

• The department requires that many of these foundation courses, as well as most of the upper-division courses, be taken at W&J (specific requirements are detailed in the information that follows for each major). The student must petition the department chair for permission to transfer equivalent courses from other institutions in satisfaction of the requirements.

DEPARTMENTAL MEMBERS TO CONTACT FOR SPECIFIC PROGRAMS
(Program Coordinator in Bold)

Accounting: Mr. Kuhn, Mr. Robison, Dr. Galley
Business: Mr. Gidas, Dr. Liberatore, Dr. Litchfield, Dr. Kuo, Dr. Park, Mr. Miller
Economics: Dr. Gottschall, Dr. L. Dunn, Dr. R. Dunn
Financial Economics: Mr. Kuhn, Dr. Park
Entrepreneurship: Mr. Miller
International Business: Dr. Litchfield
Human Resource Management: Dr. Litchfield

Mr. Kuhn is the Department Chair.

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS
• Overlooking course prerequisites; grade of C, not C-, is required in some

• Delaying the foundational MTH courses beyond the sophomore year

• Delaying ACC 211 until Spring of the sophomore year for potential accounting majors
POSSIBLE DEPARTMENTAL COURSE OF STUDY COMBINATIONS

- Departmental majors may not double major in another major offered by the department. Possible major and minor combinations within the department are as follows:

<table>
<thead>
<tr>
<th>Possible</th>
<th>Major</th>
<th>Minor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>ECN</td>
<td>ACC</td>
</tr>
<tr>
<td>Yes</td>
<td>ECN</td>
<td>BUS</td>
</tr>
<tr>
<td>Yes</td>
<td>ECN</td>
<td>ENTRE</td>
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<tr>
<td>No</td>
<td>ECN</td>
<td>FIN ECN</td>
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<tr>
<td>Yes</td>
<td>FIN ECN</td>
<td>ACC</td>
</tr>
<tr>
<td>Yes</td>
<td>FIN ECN</td>
<td>BUS</td>
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<tr>
<td>Yes</td>
<td>FIN ECN</td>
<td>ENTRE</td>
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<tr>
<td>No</td>
<td>FIN ECN</td>
<td>ECN</td>
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<tr>
<td>No</td>
<td>BUS</td>
<td>ACC</td>
</tr>
<tr>
<td>No</td>
<td>BUS</td>
<td>ENTRE</td>
</tr>
<tr>
<td>Yes</td>
<td>BUS</td>
<td>ECN</td>
</tr>
<tr>
<td>Yes</td>
<td>BUS</td>
<td>FIN ECN</td>
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<tr>
<td>No</td>
<td>INT BUS</td>
<td>BUS</td>
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<tr>
<td>No</td>
<td>INT BUS</td>
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<td>INT BUS</td>
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<td>Yes</td>
<td>INT BUS</td>
<td>ECN</td>
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<tr>
<td>Yes</td>
<td>INT BUS</td>
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<tr>
<td>No</td>
<td>ACC</td>
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<td>Yes</td>
<td>ACC</td>
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<tr>
<td>Yes</td>
<td>ACC</td>
<td>ECN</td>
</tr>
<tr>
<td>Yes</td>
<td>ACC</td>
<td>FIN ECN</td>
</tr>
</tbody>
</table>

- Students majoring in economics may complete an optional emphasis in financial economics or economic development.

- Students majoring in business administration may complete an optional emphasis in entrepreneurship, marketing, finance, operations analytics or human resource management.

- Students majoring in any departmental major other than business may complete a concentration in entrepreneurship.
ACCOUNTING MAJOR
The accounting major requires all of the departmental foundation courses as follows:

- ECN 101 – Principle of Microeconomics
- ECN 102 – Principles of Macroeconomics
- MTH 131 – Business Calculus
- MTH 125 – Probability and Statistics
- ACC 211 – Financial Accounting

These foundation courses have no prerequisites and may be taken in any order so as to accommodate the student’s overall academic progress, being offered in both the Fall and Spring terms. Optimally, though, a student wishing to major in accounting should complete all of these foundation courses by the end of the Fall term of the sophomore year. While not recommended, students may still complete the accounting major if some of these courses are delayed beyond that point. However, in no event may ACC 211 be delayed beyond the Spring term of the sophomore year.

First term freshmen are not prohibited from taking ACC 211. However, if taken in the first term, students could experience a delay of up to two terms until taking the next accounting (ACC) course. Additionally, the course is a challenge to the study skills/habits of some first-term freshmen.

Many of the 300 and 400 level accounting (ACC) courses are offered only once in each academic year. Thus, few scheduling options exist in junior and senior year. The table below represents the perpetual schedule for the offerings of the 300 and 400 level accounting (ACC) courses and the one business course required by the major (BUS 341).

<table>
<thead>
<tr>
<th>Perpetual Schedule – Accounting Courses</th>
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</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>ACC 211 – Financial Accounting</td>
<td>ACC 211 – Financial Accounting</td>
<td></td>
</tr>
<tr>
<td>ACC 321 – Accounting Systems</td>
<td>ACC 344 – Managerial Finance and Accounting</td>
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<tr>
<td>ACC 344 – Managerial Finance and Accounting</td>
<td>ACC 344 – Managerial Finance and Accounting</td>
<td></td>
</tr>
<tr>
<td>ACC 331 – Intermediate I</td>
<td>ACC 332 – Intermediate II</td>
<td></td>
</tr>
<tr>
<td>ACC 361 – Gov’t and Non-For-Profit Accounting</td>
<td>ACC 346 – Cost and Advanced Managerial Accounting</td>
<td></td>
</tr>
<tr>
<td>ACC 353 – Taxation of Businesses Entities</td>
<td>ACC 354 – Taxation of Individuals</td>
<td></td>
</tr>
<tr>
<td>ACC 471 – Auditing</td>
<td>ACC 431 – Advanced Financial Accounting</td>
<td></td>
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<tr>
<td>BUS 341 – Principles of Finance</td>
<td>BUS 341 – Principles of Finance</td>
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</tbody>
</table>
The tables below present the sequence of courses necessary to complete the major in two different plans: an Early-Start Plan (optimal and recommended) and a Late-Start Plan (feasible, but not recommended). The difference between the two plans is predicated on the timing of the completion of the departmental foundation courses.

**EARLY-START PLAN** (Optimal and Recommended)
- This option assumes that the student completes the five departmental foundation courses by the end of the Fall term of the sophomore year. In the table below, the Freshman Year and Sophomore Year sequences represent only one of many possibilities for completing the departmental foundation courses by the end of the Fall term of the sophomore year.
- Having completed the five departmental foundation courses by the end of the Fall term of the sophomore year, both ACC 321 and BUS 341 are taken in the Spring term of the sophomore year.
- The sequence of courses over the junior and senior year is prescribed due to the timing of when the courses are offered each academic year.

<table>
<thead>
<tr>
<th>Course Sequence – Early-Start Plan (Optimal and Recommended)</th>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman Year:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECN 101 – Microeconomics</td>
<td>ECN 102 – Macroeconomics</td>
<td>MTH 131 – Business Calculus</td>
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<tr>
<td>MTH 131 – Business Calculus</td>
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<tr>
<td><strong>Sophomore Year:</strong></td>
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<tr>
<td>ACC 211 – Financial Accounting</td>
<td>ACC 321 – Accounting Systems</td>
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<tr>
<td>MTH 125 – Probability &amp; Statistics</td>
<td>BUS 341 – Principles of Finance</td>
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<tr>
<td>Junior Year:</td>
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<tr>
<td>ACC 331 – Intermediate I</td>
<td>ACC 332 – Intermediate II</td>
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<tr>
<td>ACC 353 – Taxation of Businesses Entities</td>
<td>ACC 344 – Managerial Finance and Accounting</td>
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<tr>
<td>Senior Year:</td>
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<tr>
<td>ACC 471 – Auditing</td>
<td>ACC 346 – Cost and Advanced Managerial Accounting*</td>
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<tr>
<td>ACC 361 – Gov’t and Non-For-Profit Accounting*</td>
<td>ACC 354 – Taxation of Individuals*</td>
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<tr>
<td>ACC 431 – Advanced Financial Accounting*</td>
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</tbody>
</table>

*Choose one as the 300-400 level elective required by major. However, thorough preparation for the CPA Exam demands that all be taken. No accounting classes are offered during Intersession.
LATE-START PLAN (Feasible, Not Recommended)

- This option assumes that the student makes a late decision to enter the accounting program, taking the department foundation course ACC 211 and perhaps other foundation courses in the Spring term of their sophomore year. All foundation courses should be complete by the end of the Spring semester of the sophomore year. This is the latest point at which ACC 211 may be taken if the student wishes to major in accounting.

- This option is feasible, but not recommended. The intensity and sequence of the mix of courses that must be completed in the junior and senior year could negatively impact the performance of many students.

- Since ACC 321 is a prerequisite for ACC 331, the student will need the instructor’s permission to take ACC 331 in the Fall term of the junior year (this will typically be granted). ACC 321 is then taken in the Spring term of the junior year.

- The sequence of courses over the junior and senior year is prescribed due to the timing of when the courses are offered each academic year.

<table>
<thead>
<tr>
<th>Course Sequence – Late-Start Plan (Feasible, Not Recommended)</th>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman Year:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECN 101 – Microeconomics</td>
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<tr>
<td><strong>Sophomore Year:</strong></td>
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<td></td>
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<tr>
<td>ECN 102 – Macroeconomics</td>
<td>ACC 211 – Financial Accounting</td>
<td></td>
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<tr>
<td>MTH 131 – Business Calculus</td>
<td>MTH 125 – Probability &amp; Statistics</td>
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<tr>
<td><strong>Junior Year:</strong></td>
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<td>ACC 331 – Intermediate I</td>
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<td><strong>Senior Year:</strong></td>
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<tr>
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<td></td>
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<tr>
<td></td>
<td>ACC 431 – Advanced Financial Accounting*</td>
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</tbody>
</table>

*Choose one as the 300-400 level elective required by major. However, thorough preparation for the CPA Exam demands that all be taken. No accounting classes are offered during Intersession.
ACCOUNTING MINOR
It is possible for the requirements of the minor, including ACC 211, to be completed solely in the junior and senior years. An accounting minor is a good combination with an economics or financial economics major.

COMBINATION OF ACCOUNTING MAJOR AND FINANCIAL ECONOMICS MINOR
A significant knowledge of finance is needed to comprehend the accounting and financial reporting for the often complex financing strategies of business entities and to understand more thoroughly the use of accounting information in the capital markets. Thus, a financial economics minor both broadens and deepens the education of a student completing an accounting major.

However, a major/minor combination in accounting and financial economics requires the completion of several very challenging courses and results in an intense schedule. Only thoroughly motivated and disciplined students should attempt a major/minor combination in accounting and financial economics. Students should consult with Mr. Kuhn before registering for the Fall term of their junior year regarding the course sequence plan necessary to complete a major in accounting and a minor in financial economics.

REQUIREMENT FOR COURSES AT W&J
The department requires that the following courses be completed at W&J: ACC 211, 321, 331, 332, 344, 353 and 471, MTH 131 and MTH 225, and BUS 341. A student admitted to W&J after having completed these courses at another college or university must petition the chair of the department for special consideration in order to waive this requirement and transfer any of the required courses to his or her major at W&J. Also, students may petition the department chairman to waive this requirement to complete specific courses at W&J so as to facilitate a term of study abroad, as explained below in Study Abroad.

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.

STUDY ABROAD
The department wishes to encourage students to study abroad. However, the highly sequential nature of the accounting major and the fact that students cannot normally meet any of the major requirements while studying abroad necessitates that the student notify their major advisor of the desire to study abroad as early as possible in their college career. This allows the major advisor to assist the student in planning a program to accommodate the study abroad. While students cannot normally meet any of the major requirements while studying abroad, the department may waive the requirement that certain courses must be completed at W&J so as to facilitate study abroad. The courses missed while studying abroad may then be taken in summer programs at other institutions, subject to the normal policies for the approval of transfer credit. The optimum time to study abroad for an accounting major is the Spring term of the sophomore year. The next best time is Spring term of junior year. Study abroad in the Fall term of the junior or senior year is very difficult to accommodate. A cumulative GPA of 2.5 is required to participate in study abroad.
INTERNERSHIP
An accounting internship (for those majoring in accounting) is encouraged, though not required. Students should consult with their advisor regarding the process of completing and internship.

CPA EXAM AND LICENSURE REQUIREMENTS
Students pursuing careers in public accounting are encouraged to sit for the C.P.A. 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 art and are sufficient to provide a foundation for entry into the accounting profession. Thorough preparation for the C.P.A. Exam demands, however, 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 C.P.A. exam.

Most states now require a baccalaureate degree and 150 semester hours of credit for licensure as a C.P.A. Additionally, within the 150 semester-hour requirement, many states require a specific number of semester hours in accounting and some require a specific number of semester hours in business (as distinct from accounting). Students should consult with the accountancy board of the state in which they intend to sit for the C.P.A. 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 semester-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 semester and 2 Intersession courses, and the physical education/wellness requirement, students are awarded 140 semester hours of credit. Thus, Washington & Jefferson graduates need only 10 additional hours of credit to satisfy the requirement. These additional hours may be obtained through additional 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 with their advisor for more detail relative to their plans to meet the 150-hour requirement.
RECOMMENDED FOUR-YEAR PROGRAM

FRESHMAN YEAR:
- Fall Term: ECN 101 or 102
- Intersession: ECN 101 or 102
- Spring Term: MTH 125

SOPHOMORE YEAR:
- Fall Term: BUS 201, ACC 211
- Intersession: BUS Core I
- Spring Term: MTH 131

JUNIOR YEAR:
- Fall Term: BUS Core II, BUS Elective I
- Intersession: BUS Core III, BUS Core IV

SENIOR YEAR:
- Fall Term: BUS Elective II or BUS 406
- Intersession: BUS Elective II or BUS 406

NOTES
- BUS Core is comprised of four courses: BUS 301, 307, 315 and 341.
- Up to three courses may be transferred in for the purpose of meeting the requirements of the major. The department requires that all Business Administration majors complete the following courses at Washington & Jefferson College: ACC 211, MTH 131 and 125, BUS 301, 307, 315, 341, and 406. A student admitted to the College after having completed any of these courses at another college or university must petition the chair of the department for special consideration in order to waive this requirement and transfer any of these courses to his or her major at W&J.
- While not required, the department encourages students to complete an internship in business.
- In addition to the major in business administration, the Business Administration Program offers a minor in business administration and offers the following optional emphases available to majors: entrepreneurship, finance, human resource management, marketing, and operations analytics.
IMPORTANT PIECES OF ADVICE
Take BUS 201 freshman or sophomore year

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS
• An Entrepreneurship Minor is available to all majors except business majors and international business majors

• An Entrepreneurship Concentration is available to all majors except business majors

• Business Majors may obtain an Emphasis in Entrepreneurship

• International Business Majors may obtain an Entrepreneurship Concentration
Department: **Economics and Business**  
Major and Minor: **Economics**  
Program: **--**

**RECOMMENDED FOUR-YEAR PROGRAM**

**FRESHMAN YEAR:**
- **Fall Term**  
  ECN 101 or 102*
  Intersession
- **Spring Term**  
  ECN 101 or 102*
  MTH 131 or 151**

**SOPHOMORE YEAR:**
- **Fall Term**  
  ECN 202 (fall only)
  MTH 125
  Intersession
- **Spring Term**  
  ECN 201 (spring only)
  ECN 300 elective

**JUNIOR YEAR:**
- **Fall Term**  
  ECN 300 elective
  Intersession
- **Spring Term**  
  ECN 300 elective or ECN 440

**SENIOR YEAR:**
- **Fall Term**  
  ECN 400 elective or ECN 498
  Intersession
- **Spring Term**  
  ECN 400 elective or ECN 498

*It is not uncommon for students to take either ECN 101 or ECN 102 during their sophomore year. This should not impact completion of the Economics major.

**While either MTH 131 or 151 will satisfy major requirements, MTH 151 is strongly encouraged for certain post-graduate and career paths. Students who are unsure of math placement should consult with an economics faculty member.**

**NOTES**
- The Department of Economics requires that the following courses be completed at W&J: ECN 101, 102, 201, 202, MTH 151 (or 131), and MTH 125. A student admitted to the College after having completed these courses at another college or university must petition the chair of the department for special consideration in order to waive this requirement and transfer any of the core required classes to his or her major at W&J.

- Four electives at the 300-level or higher are required for the major, at least one of these electives must be at the 400-level. Students often take additional 300- and 400-level courses; graduate work in economics requires a strong background in mathematics.

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

**FOR ECONOMICS MAJORS**
- **Emphasis in Economic Development**: ECN 325 and 326; one additional course from ECN 309 or ECN 421.
- **Emphasis in Financial Economics**: ACC 211 and ECN 341; two additional courses from ECN 343, FIN 342, FIN 344.
FINANCIAL ECONOMICS MAJOR
The financial economics major requires all of the departmental foundation courses as follows:

- ECN 101 – Principle of Microeconomics
- ECN 102 – Principles of Macroeconomics
- MTH 131 – Business Calculus
- MTH 125 – Probability and Statistics
- ACC 211 – Financial Accounting

These foundation courses have no prerequisites and may be taken in any order so as to accommodate the student’s overall academic progress, being offered in both the Fall and Spring terms. Optimally, though, a student wishing to major in financial economics should complete all of these foundation courses by no later than the Spring term of the sophomore year. At the very least, ECN 102, MTH 125 and ACC 211 must be completed by that time, so that FIN 341 may be taken no later than the Fall of the junior year. In no event may FIN 341 be delayed beyond the Fall term of the junior year.

Many of the 300 and 400 level financial economics (FIN) courses are offered only once in each academic year. Thus, few scheduling options exist in junior and senior year. The table below represents the perpetual schedule for the offerings of the 300 and 400 level financial economics (FIN) courses and the two economics courses required by the major, ECN 201 and ECN 202.

<table>
<thead>
<tr>
<th>Perpetual Schedule – Financial Economics Courses</th>
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<tbody>
<tr>
<td><strong>Fall</strong></td>
</tr>
<tr>
<td>ECN 202 – Intermediate Macroeconomics</td>
</tr>
<tr>
<td>FIN 341 – Principles of Finance</td>
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<tr>
<td></td>
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<tr>
<td>FIN 344 – Managerial Finance &amp; Accounting</td>
</tr>
<tr>
<td>FIN 397 – Special Topics in Financial Economics +</td>
</tr>
<tr>
<td>FIN 440 – Quantitative Investment Analysis</td>
</tr>
<tr>
<td>FIN 445 – Financial Analysis &amp; Security Valuation</td>
</tr>
</tbody>
</table>

+ Either FIN 397 or FIN 497 will be offered each Fall
The tables below present the typical sequence of courses necessary to complete the major in two different plans: an Early-Start Plan and a Late-Start Plan. The difference between the two plans is predicated on the timing of the completion of the departmental foundation courses.

**EARLY-START PLAN**

- This option assumes that the student completes the five departmental foundation courses by the end of the Fall term of the sophomore year. In the table below, the Freshman Year and Sophomore Year sequences represent only one of many possibilities for completing the departmental foundation courses by the end of the Fall term of the sophomore year.
- Having completed the five departmental foundation courses by the end of the Fall term of the sophomore year, both ECN 201 and FIN 341 are taken in the Spring term of the sophomore year.
- Except for FIN 344, which is offered in each term, the sequence of the remaining courses over the junior and senior year is prescribed due to the timing of when the courses are offered each academic year.

<table>
<thead>
<tr>
<th>Suggested Course Sequence – Early Start Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall</strong></td>
</tr>
<tr>
<td><strong>Freshman Year:</strong></td>
</tr>
<tr>
<td>ECN 101 – Microeconomics</td>
</tr>
<tr>
<td>MTH 131 – Business Calculus or MTH 151 – Calculus I</td>
</tr>
<tr>
<td><strong>Sophomore Year:</strong></td>
</tr>
<tr>
<td>ACC 211 – Financial Accounting</td>
</tr>
<tr>
<td>MTH 125 – Probability &amp; Statistics</td>
</tr>
<tr>
<td><strong>Junior Year:</strong></td>
</tr>
<tr>
<td>ECN 202 – Intermediate Macroeconomics</td>
</tr>
<tr>
<td>FIN 344 – Managerial Finance &amp; Accounting*</td>
</tr>
<tr>
<td><strong>Senior Year:</strong></td>
</tr>
<tr>
<td>FIN 440 – Quantitative Investment Analysis</td>
</tr>
<tr>
<td>FIN 445 – Financial Analysis &amp; Security Valuation</td>
</tr>
<tr>
<td>FIN 397 or FIN 497 - Special or Advanced Topics*</td>
</tr>
</tbody>
</table>

*Choose one as the 300-400 level elective required by major. However, thorough preparation for the CFA Level I exam demands that all be taken.

No financial economics classes are offered during Intersession.
LATE-START PLAN

- This option assumes that the student completes the five departmental foundation courses by the end of the Spring term of the sophomore year.

- Having completed the five departmental foundation courses by the end of the Spring term of the sophomore year, FIN 341 is taken in the Fall term of the junior year.

- In the table below, the Freshman Year and Sophomore Year sequences represent only one of many possibilities for completing the departmental foundation courses by the end of the Spring term of the sophomore year.

- Except for FIN 344, which is offered in each term, the sequence of the remaining courses over the junior and senior year is prescribed due to the timing of when the courses are offered each academic year.

<table>
<thead>
<tr>
<th>Suggested Course Sequence – Late-Start Plan</th>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman Year:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECN 101 – Microeconomics</td>
<td>ECN 102 – Macroeconomics</td>
<td>MTH 131 – Business Calculus or MTH 151 – Calculus I</td>
</tr>
<tr>
<td>MTH 131 – Business Calculus or MTH 151 – Calculus I</td>
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<tr>
<td><strong>Sophomore Year:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACC 211 – Financial Accounting</td>
<td>MTH 125 – Probability &amp; Statistics</td>
<td></td>
</tr>
<tr>
<td><strong>Junior Year:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIN 341 – Principles of Finance</td>
<td>FIN 342 – Investments &amp; Portfolio Theory</td>
<td></td>
</tr>
<tr>
<td>ECN 202 – Intermediate Macroeconomics</td>
<td>FIN 344 – Managerial Finance &amp; Accounting*</td>
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</tr>
<tr>
<td></td>
<td>FIN 343 – Money, Banking &amp; Financial Markets*</td>
<td></td>
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<tr>
<td><strong>Senior Year:</strong></td>
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<td></td>
</tr>
<tr>
<td>FIN 440 – Quantitative Investment Analysis</td>
<td>ECN 201 – Intermediate Microeconomics</td>
<td></td>
</tr>
<tr>
<td>FIN 445 – Financial Analysis &amp; Security Valuation</td>
<td>FIN 498 – Senior Project</td>
<td></td>
</tr>
<tr>
<td>FIN 397 or FIN 497 - Special or Advanced Topics*</td>
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</tbody>
</table>

*Choose one as the 300-400 level elective required by major. However, thorough preparation for the CFA Level I exam demands that all be taken. No financial economics classes are offered during Intersession.
FINANCIAL ECONOMICS MINOR
While it is possible for the requirements of the minor to be completed solely in the junior and senior years, it is better that some of the foundational courses be taken in the freshmen and sophomore years. A financial economics minor is a good combination with an accounting, business or mathematics major. Note that accounting majors must take two 300-400 level financial economics (FIN) electives (FIN 344 not included as a choice) to complete the minor.

COMBINATION OF FINANCIAL ECONOMICS MAJOR AND ACCOUNTING MINOR
A significant knowledge of financial accounting and reporting is needed by a student completing a financial economics major and having a goal of passing the CFA Level I Exam. The accounting knowledge required for this exam is much more than that provided in the entry-level financial accounting course requirement of the financial economics major. Additionally, tax issues are a major consideration in financial planning activities for both individuals and businesses. Thus, a minor in accounting is highly beneficial to a student completing a major in financial economics.

However, a major/minor combination in financial economics and accounting requires the completion of several very challenging courses and results in an intense schedule. Only thoroughly motivated and disciplined students should attempt a major/minor combination in accounting and financial economics.

Students should consult with Mr. Kuhn before scheduling for the Spring term of their sophomore year regarding the course sequence plan necessary to complete a major in financial economics and a minor in accounting.

REQUIREMENT FOR COURSES AT W&J
The department requires that the following courses be completed at W&J: FIN 341, 342, 440, 445 and 498, ECN 101, 102, 201 and 202, MTH 131 and MTH 125, and ACC 211. A student admitted to W&J after having completed these courses at another college or university must petition the chair of the department for special consideration in order to waive this requirement and transfer any of the required courses to his or her major at W&J. Also, students may petition the department chairman to waive this requirement to complete specific courses at W&J so as to facilitate a term of study abroad, as explained below in Study Abroad.

PREREQUISITE GRADE REQUIREMENT
A grade of C or better is required to satisfy the prerequisite requirement for any financial economics (FIN) course serving as a prerequisite for other financial economics (FIN) courses.

INTERNSHIP
An internship is encouraged, though not required. Students should consult with their advisor regarding the process of completing an internship.
STUDY ABROAD
The department wishes to encourage students to study abroad. However, the highly sequential nature of the financial economics major and the fact that students cannot normally meet any of the major requirements while studying abroad necessitates that the student notify their major advisor of the desire to study abroad as early as possible in their college career. This allows the major advisor to assist the student in planning a program to accommodate the study abroad. While students cannot normally meet any of the major requirements while studying abroad, the department may waive the requirement that certain courses must be completed at W&J so as to facilitate study abroad. The courses missed while studying abroad may then be taken in summer programs at other institutions, subject to the normal policies for the approval of transfer credit.

The optimum time to study abroad for a financial economics major is the Spring term of the sophomore year. The next best time is Fall term of junior year assuming that the student has already completed FIN 341. Study abroad in the Spring term of the junior year or anytime during the senior year is very difficult to accommodate. A cumulative GPA of 2.5 is required to participate in study abroad.

CFA LEVEL I EXAM
Students pursuing careers as financial analysts are encouraged to sit for the Chartered Financial Analyst (CFA) Level I Exam soon after completing the program. Washington & Jefferson College is part of the University Recognition Program of the CFA Institute and thereby the financial economics curriculum covers a significant amount of the required material of the CFA Level I Exam. Thorough preparation for the exam demands, however, that the student complete not only the requirements of the major, but also, all of the additional elective courses offered in finance, additional courses in financial accounting and a post-graduate program of self-study review. Students should consult with Mr. Kuhn for more detail relative to preparing for the CFA Level I Exam. On a competitive basis, scholarships are available for the exam. Students should consult with Mr. Kuhn or Dr. Park about the possibility of a scholarship.
**FACULTY CONTACTS**
Dr. H.J. Manzari, Associate Professor of Spanish  
Dr. Rob Litchfield, Associate Professor of Economics/Business

**RECMMENDED FOUR-YEAR PROGRAM**

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<thead>
<tr>
<th>Freshman Year:</th>
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<td><strong>Spring Term</strong></td>
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<tr>
<td>ECN 101 or 102</td>
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<td>ECN 101 or 102</td>
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<tr>
<td>Modern Lang. 105 or 207</td>
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<td>Modern Lang. 106 or 207</td>
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<td><strong>Spring Term</strong></td>
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<tr>
<td>Modern Lang. 207 or 309</td>
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<td>MTH 125</td>
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<td>ACC 211</td>
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<td>BUS 201</td>
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<td><strong>Fall Term</strong></td>
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<td><strong>Spring Term</strong></td>
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<tr>
<td>BUS 341</td>
<td></td>
<td>BUS 307 or 361</td>
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<td>BUS 307 or 361</td>
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<td>Modern Lang. 371</td>
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<td><strong>Intersession</strong></td>
<td><strong>Spring Term</strong></td>
<td></td>
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<tr>
<td>BUS 406 or BUS 451 or 457</td>
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<td>BUS 406 or BUS 451 or 457</td>
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**RULES OF THUMB REGARDING ENTRANCE ABILITY FOR PARTICULAR COURSES**
- All accounting, business, and economics courses beyond ECN 101, ECN 102, ACC 211 and BUS 201 have prerequisites
- ECN 101 and ECN 102 are not sequential
IMPORTANT PIECES OF ADVICE

- Majors must complete language study through the 310 level and take 371, Business Communication and Culture

- Majors must complete a semester-long internship or semester study abroad in an area where the target language is spoken; plan study abroad or internship with advisors well in advance

- Completing the study abroad or internship in the junior year is preferred

- IB students who plan to study abroad should be sure to get courses pre-approved by their advisors

- Students must maintain a 2.5 or better GPA to qualify for study abroad

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS

- Overlooking course prerequisites

- Not having an academic advisor in both Business and Modern Languages

- Not meeting with both advisors early in college career to carefully plan coursework and internship experience in target language.
The Education Department at Washington and 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 they qualify for by the end of their sophomore year.

Most students majoring in Child Development and Education (CDE) are seeking certification in PreK-4 Early Childhood Education (CDE is the required major for this program). Students fulfilling the requirements for state certification in Early Childhood Education must also complete a set of content courses in addition to their CDE major. Completing the major, content courses, and the College's general education requirements will leave limited room for electives during their four years at W&J. Therefore, it is important that students receive careful advising from the beginning of their academic career. Consultation with the Education Department or the members of The Committee on the Teaching Profession (COTP) is strongly recommended for planning purposes.

Students who would like to add Special Education PreK-8 certification to their Early Childhood Certification need to take the additional designated coursework in special education to qualify for “dual certification in special education PreK-8.” Please see the dual certification section of this Advisor’s Guide for complete information and the Handbook for Students Seeking Certification to Teach.

FACULTY CONTACTS FOR ALL CERTIFICATION PROGRAMS
Dr. James Longo, Education Department Chair, Professor of Education
Professor D. Ryan Bunting, Instructor, Education Department
Ms. Diane Day, Administrative Assistant, Education Department
Dr. Elizabeth Bennett, Professor of Psychology, Interim Chair, Committee on the Teaching Profession – COTP

IMPORTANT PIECES OF ADVICE
• First-year students should take PSY 101 and PSY 102. PSY 101 must be taken at W&J. PSY 101 taken off campus will transfer in as PSY 102.

• Because of state competencies and internship and education requirements, courses taken off campus and online are not accepted in the certification program. They can be electives.

• Students should complete two college-level English (composition and literature) and two college-level math courses (Math 123-124) during the freshman and sophomore years (Pre-calculus does not count).
If looking for courses that meet current curriculum requirements, search for: *Artistic, one Literary (provided it is an ENG literature course), and one Foreign Language* course. Previous (2015 and prior) curriculum requirements are ARTS, one HUM, one W course, and one Foreign Language course. Students majoring in Child Development and Education will complete 2 Behavioral courses (PSY 102 and EDU 207), and 1 Historical course (EDU 201). If the student is seeking certification in Early Childhood PreK-4, then by completing their certification courses they will also complete 1 Historical course (HIS 201), 2 Logical Courses (MTH 123 and MTH 124), 1 Scientific course (required science course with a lab), 1 Literary course (an English Literature course), a Writing course (EDU 304), a Diversity course (EDU 205) and their Physical Activity and Wellness requirement (PHW/PHA 200).

**EDU 201** should be the first education course students take provided they are confident they can handle the course requirements, have all required clearances, and have the time in their schedule for an internship at a local school.

Freshmen interested in teacher certification may also choose to begin the program by taking EDU 205 Geography for Teachers in the spring semester.

Freshmen and sophomores should not enroll in more than one education class per semester due to internship and other course requirements unless they have permission of the department chair.

Students should talk to a member of the Education Department about the requirements for certification during the freshman year or as soon as possible.

Please leave space in the student’s schedule for required internships for EDU classes: School internships are weekly, generally between 9–11 a.m. or 1–3 p.m.

The two college-allowed S/U options do not apply to courses in the major or minor.

Students may not major or minor in Psychology with the CDE major.

PDE requires 2 science classes that include elements of biological, physical, and/or environmental sciences. At least 1 of these courses must have a lab, we recommend both have labs. Note: Not all Scientific courses (e.g. PSY 115) will count for the PDE requirement. All SCIEN designated courses will have a lab. The second course must have appropriate content, but does not have to carry a SCIEN designation. S/U Options do not apply to the science classes.

Because of specific mandated competencies by the federal and state government and internship requirements, core education courses taken off campus will not transfer into the certification program but can be electives.

➢ To avoid a fee for an additional Intersession course for all certification areas: Students seeking certification should save an Intersession slot for junior or senior year when they are required to take EDU 350. Students seeking Special Education Dual Certification must save both Intersession slots for junior and senior years when they are required to take EDU 250 & 350.
## RECOMMENDED FOUR-YEAR PROGRAM—Early Childhood Education PreK-4

### CONTENT COURSES
MTH 123, MTH 124, EDU 205, ENG 111 or 112, ENG 190 (or other lit), HIS 201, two science (biological, physical, or environmental courses—one with a lab), and PHA/PHW 200

### FRESHMAN YEAR:
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<tr>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
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<tbody>
<tr>
<td>PSY 101 (<em>taken at W&amp;J</em>)</td>
<td>SAVE</td>
<td>PSY 102</td>
</tr>
<tr>
<td>MTH 123 and ENG: Composition &amp;/or British or American Literature</td>
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<td>MTH 124 and ENG: Composition &amp;/or British or American Literature</td>
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### SOPHOMORE YEAR:
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<thead>
<tr>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU 201 or EDU 207 (if student took EDU 201 freshman year)</td>
<td>SAVE</td>
<td>EDU 205 (a content course)</td>
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<td>1 of PSY 225, 265, or 275</td>
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<td>1 of PSY 225, 265, or 275</td>
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<tr>
<td>Content courses or Gen Ed</td>
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<td>Content courses or Gen Ed</td>
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### JUNIOR YEAR:
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<th>Spring Term</th>
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</thead>
<tbody>
<tr>
<td>EDU 207</td>
<td>EDU 350</td>
<td>EDU 301</td>
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<td>EDU 304</td>
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<td>1 of PSY 225, 265, OR 275</td>
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<td>Content courses or Gen Ed</td>
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### SENIOR YEAR:
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<th>Intersession</th>
<th>Spring Term</th>
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</thead>
<tbody>
<tr>
<td>EDU 302</td>
<td>EDU 350 OR EDU 250*</td>
<td>If seeking certification: EDU 406</td>
</tr>
<tr>
<td>EDU 303</td>
<td>*Dual Special</td>
<td>EDU 407 (counts as 3)</td>
</tr>
<tr>
<td>EDU 403</td>
<td></td>
<td>If NOT seeking certification: EDU 408</td>
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<tr>
<td></td>
<td></td>
<td>EDU 409</td>
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<td>Two other courses</td>
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</tbody>
</table>
Students fulfilling the requirements for state certification in Grades 4-8 and the College's general education requirements will have limited electives during their four years at W&J. Therefore, it is important that they receive careful advising from the beginning of their academic career. Consultation with the Education Department and/or members of the COTP is strongly recommended for planning purposes. For students seeking certification in Grades 4 - 8, there are two options:

**OPTION 1**
Major in Child Development and Education (See Advisor’s Guide pages on the major requirements for Child Development and Education – CDE) and take specific content courses in the area they wish to specialize in by selecting one of the following areas (Please see the *Handbook for Students Seeking Certification To Teach* advising sections for your specific area):

- **SCIENCE 4-8**: Minor in biology or EVS plus take special courses aligned to the state and national standards for science grades 4-8
- **LANGUAGE ARTS 4-8**: Minor in English plus take special courses aligned to the state and national standards for language arts grades 4-8
- **SOCIAL STUDIES 4-8**: Minor in history for social studies plus take special courses aligned to the state and national standards for grades 4-8
- **MATHMATICS 4-8**: Students may minor in math or they may take special courses aligned to state and national standards in mathematics for math grades 4-8.

**OPTION 2**
*Major in the content area you want to teach*, minor in education, and take psychology courses related to teaching students in grades 4-8 and special content-related courses. In order to prepare for certification teaching areas, please consult the *Handbook for Students Seeking Certification to Teach*. Select a major corresponding to the desired specialty area:

- Major in Biology or EVS for science grades 4-8 plus take special courses aligned to the state and national standards
- Major in English for language arts grades 4-8 (and take EDU 303 Literacy, Reading and Writing) plus take special courses aligned to the state and national standards
- Major in History for social studies grades 4-8 plus take special courses aligned to the state and national standards
- Major in Mathematics for math grades 4-8 plus take special courses aligned to the state and national standards


Students who would like to add Special Education PreK-8 certification to their Grades 4-8 Certification need to take the additional designated coursework in special education to qualify for “**dual certification in special education PreK-8**.” Please see the dual certification section of this Advisor’s Guide and consult the *Handbook for Students Seeking Certification to Teach*.
Students seeking secondary teacher certification must have an academic major in the subject he or she hopes to teach (see list at end of this section). In addition, students will complete an Education minor as part of their secondary school teacher certification requirements for which they must complete the courses listed below (all of which require internships in local schools). Some secondary areas require additional coursework that is aligned to state and national standards in their content or subject area. Please consult the advising pages of the Handbook for Students Seeking Certification to Teach.

Students who would like to add Special Education to their main certification need to take the additional designated coursework in special education to qualify for “dual certification in special education 7-12.” Students certifying in a specialty PreK-12 area (e.g. Art or a Language) need to consult the education department. Please see the dual certification section of this Advisor’s Guide for complete information.

**IMPORTANT PIECES OF ADVICE**

- First-year students must take PSY 101 at W&J. PSY 102 is recommended but not required for students seeking secondary certification. PSY 101 taken off campus will transfer in as PSY 102.

- Students should complete two college-level English (composition and American or British literature) and two college-level math courses during the freshman and sophomore years (Pre-calculus does not count).

- EDU 201 should be the first education course students take provided they are confident they can handle the course requirements, have all required clearances, and have the time in their schedule for an internship at a local school.

- Freshmen interested in teacher certification in Social Studies 4–8 and 7–12 may choose to begin the program by taking EDU 205 Geography for Teachers in the spring semester.

- Freshmen and sophomores should not enroll in more than one education class per semester due to internship and other course requirements unless they have permission of the department chair.

- Students should be strongly encouraged to talk to a member of the Education Department about the requirements for certification during the freshman year (or as soon as possible).

- **For All Programs:** Students must apply for admission to the certification program (in the spring of their sophomore year by the last Friday in March) and for permission to student teach (in the spring of their junior year by the last Friday in February).

- Please leave space in student’s schedule for required internships for EDU classes: School internships are weekly, generally between 9–11 a.m. or 1–3 p.m.

- The two College-allowed S/U options do not apply to courses in the major or minor.
• Students must complete the major prior to student teaching, if they have more than 4 extra credits (from AP, transfer, or summer school classes, etc.) care must be taken to make sure they do not lose financial aid due to early completion of graduation requirements.

• Students seeking Grades 4-8 Certification should have a second advisor in the Education Department in addition to their major advisor and/or representatives on the COTP.

• Because of specific mandated competencies by the federal and state government and internship requirements, core education courses taken off campus will not transfer into the certification program, but can be electives.

• Courses taken off campus online are not accepted in the certification program.

• To avoid a fee for an additional Intersession course: Students seeking Certification should save an Intersession slot for junior or senior year when they are required to take EDU 350. Students seeking Special Education Dual Certification must save both Intersession slots for junior and senior year when they are required to take EDU 250 & 350.
RECOMMENDED FOUR-YEAR PROGRAM—SECONDARY EDUCATION
Recommendations here should be ADDED TO the recommendations for the students MAJOR

PDE Requirements
• 2 College-level math (pre-calculus does not count)
• 2 College-level English (ENG 111/112 and ENG 190, ENG 263, or other American or British Literature)

FRESHMAN YEAR:
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<tr>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
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<tr>
<td>PSY 101 (taken at W&amp;J)</td>
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<td>PSY 102 (recommended)</td>
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<td>1 college level MTH and ENG:</td>
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<td>1 college level MTH and ENG:</td>
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<td>American Literature</td>
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SOPHOMORE YEAR:
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<th>Spring Term</th>
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<tbody>
<tr>
<td>EDU 201 or EDU 207 (if student took EDU 201 freshman year)</td>
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<td>1 college level MTH and ENG:</td>
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<td>1 college level MTH and ENG:</td>
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<td>Composition &amp; British or</td>
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JUNIOR YEAR:
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<td>EDU 207</td>
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<td>EDU 350</td>
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SENIOR YEAR:
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<th>Spring Term</th>
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<td>EDU 406</td>
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<td>EDU 407 (counts as 3)</td>
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*Dual Special
SECONDARY TEACHER CERTIFICATION AREAS 7-12

- **Art**—(includes specialty certification [PreK–12] offered under secondary teacher certification guidelines); see advising pages in this guide for Art.

- **Biology**—See advising pages in this guide for Biology.

- **Chemistry**—See advising pages in this guide for Chemistry.

- **English**—See advising pages in this guide for English.

- **Modern Languages: French/Spanish/German**—(includes specialty certification [PreK–12] offered under secondary teacher certification guidelines); see advising pages in this guide for French, German, and Spanish.

- **Mathematics**—See advising pages in this guide for Mathematics.

- **Physics**—See advising pages in this guide for Physics.

- **Social Studies** (History)—See advising pages in this guide for History
DUAL SPECIAL EDUCATION PreK-8 & 7-12

Students can seek certification in Special Education PreK-8 or 7-12 in addition to their main certification area by taking additional coursework. Students may not pursue special education certification as a stand-alone major but only as a dual special education certification program. Dual certification in special education may require additional coursework during summers between semesters or an extra semester.

- Students Seeking Early Childhood or Grades 4-8 may complete Special Education PreK-8.
- Students seeking Secondary Certification may complete Special Education 7-12.
- Students seeking certification in a specialty area (grades PreK-12 in Art, or a Modern Language) choose either Prek – 8 or 7 – 12 for their special education certification track.
- Students seeking dual certification should look for general education courses with multiple skill areas in writing and humanities to avoid summer school or an extra semester of course work.

DUAL CERTIFICATION REQUIRES TWO INTERSESSIONS IN JANUARY

- EDU 350—The Diverse Learner course and internship
- EDU 250—Teaching Internship Special Education

To avoid a fee for an additional Intersession course: Students seeking Certification should save an Intersession slot for junior or senior year when they are required to take EDU 350. Students seeking Special Education Dual Certification must save both Intersession slots for junior and senior year when they are required to take EDU 250 & 350.

RECOMMENDED FOUR-YEAR PROGRAM

Recommendations here should be ADDED TO the recommendations for the students MAJOR and MAIN CERTIFICATION AREA

SOPHOMORE YEAR:

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<thead>
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<th>Spring Term</th>
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<tbody>
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<td>EDU 309, 321 and / or EDU 221</td>
<td>SAVE</td>
<td>EDU 301 and 309 or EDU 321</td>
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<td>and/or EDU 221</td>
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JUNIOR YEAR:

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<th>Intersession</th>
<th>Spring Term</th>
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<tbody>
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<td>EDU 309 or EDU 321 and/or EDU 221</td>
<td>Required</td>
<td>EDU 301 and 309 or EDU 321</td>
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<td>and/or EDU 221</td>
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SENIOR YEAR:

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<tr>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
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<tbody>
<tr>
<td>EDU 303</td>
<td>EDU 250</td>
<td>EDU 406-7 (counts as 4)</td>
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FOR ALL CERTIFICATION AREAS
Mandatory membership to the Pennsylvania Student Education Association (PSEA) and yearly current/updated clearances (FBI, Act 34, Childcare, and TB) are required every year for internships. Students attend a mandatory meeting on Reading Day in May to prepare packets with their complete PSEA membership and yearly clearances that are due each summer. PSEA membership and clearances cannot expire during the internship or school year. Students may take classes without an internship, which may lead to graduation without certification.
FACULTY CONTACT
Dr. Mike McCracken, Physics Department

All Dual-degree Engineering and Applied Science students must see Dr. Mike McCracken for advising as soon as they arrive on campus.

RECOMMENDED THREE-YEAR PROGRAM (For programs other than Chemical Engineering). The schedule below is a useful template for the standard engineering fields (mechanical, civil, electrical). Other subfields have more specialized pre-requisite courses. Interested students should consult the Dual-Degree Engineering and Applied Science Advising Guide.

FRESHMAN YEAR:

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<tr>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
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<tr>
<td>PHY 107</td>
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<td>PHY 108</td>
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<td>MTH 151</td>
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<td>MTH 152</td>
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SOPHOMORE YEAR:

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<tr>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
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<td>CHM 160</td>
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<td>CIS 220</td>
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<td>PHY 208</td>
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<td>MTH 308 or PHY 250</td>
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<td>MTH 208</td>
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JUNIOR YEAR:

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<tr>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
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</thead>
<tbody>
<tr>
<td>CHM 260</td>
<td></td>
<td>CIS 220</td>
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</tbody>
</table>

SENIOR YEAR:

Not applicable

- **Plan B engineering course sequence:** Students who have low math placement/board scores may want to hold defer taking MTH 151 and PHY 107 until the fall term of their sophomore year. These students may enroll in MTH 111 (Pre-calculus) and CHM 160 for the fall term of their first year; MTH 151 spring term, followed by MTH 152 during the summer. These students would begin their PHY 107 and 108 coursework sophomore year.

- Engineering students must satisfy all of W&J’s graduation requirements, including completing a W&J major, as well as all breadth of study and general education requirements. For programs with WashU and Case, up to three courses in the major may be taken at the engineering partner school. Completing the major is typically the most challenging requirement for dual degree engineering students.
IMPORTANT PIECE OF ADVICE

• Consult the Dual-Degree Engineering and Applied Science Advising Guide for the year that students entered W&J. The guide is updated annually to list courses of study and all requirements (pre-req. courses, GPA, general education) for each partner school. (Contact Mike McCracken for pdf of guide.)

• Take MTH 151 and PHY 107 fall term freshman year, not doing so may make it difficult to complete W&J requirements in three years; if pursuing chemical engineering or if math background isn’t sufficient for PHY 107, substitute CHM 160 for PHY 107.

• Students who are interested in engineering and have low math placement/board scores may enroll in MTH 151 with the understanding that it may be necessary to “drop down” to Pre-calculus early in the term. (Note: Math placement scores are imperfect predictors). It is desirable in such cases to arrange the student’s schedule so that he/she can move to Pre-calculus easily. Also, the student should consult with the Calculus course instructor at the start of the term regarding his/her math proficiency.

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS

• Not having student consult the dual-degree liaison (Mike McCracken) as soon as possible for advising

• Not advising students interested in the engineering program to take calculus I first term freshman year; consult with Drs. Kline (Mathematics) or McCracken (Physics) immediately if math placement score is below the range for Calculus I. Without Calculus I first term freshman year, it is very difficult to complete the dual-degree program in a 3-2 or 3-3 timeline without a well-timed summer school course in Calculus II.

• Not alerting students that they must maintain at least a 3.0 GPA in core math and science courses in order to be eligible for Case Western University, 3.30 for Columbia University, and 3.25 Washington University in St. Louis programs. Overall cumulative GPA requirements also apply.
DEPARTMENTAL MEMBERS TO CONTACT FOR AREAS OF SPECIALIZATION
Professor Drew-Bear: Shakespeare; British literature; drama
Professor T. Fee: American literature; fiction
Professor Harding: Professional writing; American literature; fiction
Professor Lewis: British literature, fiction
Professor Kyler: American literature; African-American literature; gender and women's studies
Professor Mayer: Medieval literature; British literature; history of the English language
Professor McEvoy: Professional writing; American literature; world literature
Professor Shiller, Chair: British literature; fiction; environmental literature
Professor Troost: British literature; editing and print design
Professor Verdun: British literature; the Romantics; poetry

RECOMMENDED FOUR-YEAR PROGRAM
FRESHMAN YEAR:
ENG 111/112 (does not count toward the English major)
One 100- or 200-level ENG class

SOPHOMORE YEAR:
Two or three 200-level ENG courses (recommended: ENG 263, ENG 290)

JUNIOR YEAR:
One or two 200-level ENG courses (students should complete 200-level course before advancing to the 300-level)
One or two 300-level ENG course(s)

SENIOR YEAR:
Two or three 300-level courses ENG 400 (capstone)

NOTE
ENG 200, ENG 302, COM 220, and a designated COM course are required for students seeking Secondary Education (grades 7-12) Certification in English.

RULES OF THUMB REGARDING ENTRANCE ABILITY FOR PARTICULAR COURSES
English 111/112 placement will be handled by departmental recommendation
IMPORTANT PIECES OF ADVICE

- With the class entering Fall 2011, ENG 190 is no longer required for the major or the minor; majors must now take ENG 290 after completing at least one 200-level literature course, preferably after two or three such courses; minors are welcome to take ENG 290 but are not required to do so.

- Students interested in a career in writing may find the interdisciplinary concentration in Professional Writing worth pursuing; normally, students begin working on the concentration during the sophomore or junior year; see the College Catalog for more information.

- Detailed course descriptions, expanding on catalogue copy, are always available at the English department’s website.

- Potential majors should get a good historical background through survey courses before taking specialized courses.

- Choose a variety of professors; do not “major” in one faculty member.

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS

Automatically placing students interested in English into the survey courses (263, 264, 265, 266). Often, the 200-level topic or genre courses (250, 255) are better “gateways” into the department and for freshmen and sophomores, especially if they aren’t sure they’re going to be majors.
FACULTY CONTACTS
Dr. Jason Kilgore, Environmental Science Coordinator
Dr. Robert East, EVS Program Director

REQUIREMENTS
The Environmental Science (EVSC) major consists of a total of 15.5-16 courses, including 11 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 I, CHM 260 Inorganic Chemistry, and CHM 270 Analytical Chemistry
- MTH 151 Calculus I and BIO/MTH 245 Applied Statistics for the Life Sciences
- BIO 219 Field Biology
- EVS 430 Capstone Experience.

In addition, students must successfully complete five elective courses as follows:
- One course from Environmental Economics, Policy, and Ethics: ECN 391, EVS 201, EVS 315, PHL 231, POL 350, or PPL 313
- One course from Computing Science: CIS 112, CIS 220, CIS 241, CIS 146, 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 385 (1/2 course), EVS 300, PHY 101, PHY 107, approved 500/501 Independent Study, or any course listed above

NOTE
Students may include one approved Intersession course to count towards the major as an elective.
The Environmental Studies Program provides an opportunity for students to pursue a major or to consolidate and synthesize specialized knowledge from their major field(s) of study into a minor. Some students find that creating a “thematic major” (re: College Catalog) around environmental subject matter better addresses their needs. Some recently created examples of thematic majors include Environmental Health, Environmental Politics, Conservation Biology, and Environmental Assessment.

**MAJOR REQUIREMENTS**

To complete the major, students must successfully complete a total of ten (10) courses. The following five courses are required:

- EVS 101 Environmental Studies or EVS 100 Introductory Topics in Environmental Studies
- EVS 201 Global Environmental Issues
- One of the following: PHL 231 Environmental Ethics, HIS 274 World Environmental History, POL 313 Environmental Policy, or EVS 315 International Environmental Policy
- BIO 320 Ecology or BIO 288 Conservation Biology
- EVS 430 Capstone Experience in Environmental Studies

In addition, students must complete five elective courses as follows:

- **At least one course from Natural Sciences:** EVS 150, EVS 220, EVS 330, EVS 350, BIO 200, BIO 245, BIO 288, BIO 416, CHM 101, CHM 347 (Special Topics: Environmental Chemistry)
- **At least one course from the Social Sciences:** EVS 130, EVS 260, EVS 280, EVS 300, EVS 315, SOC 261, SOC 262, SOC 347, SOC 361, POL 313, POL 350 (Regulatory Policy & Environmental Law or Global Resources), ECN 391, CIS 146
- **The remaining three electives courses can be chosen from the lists above or from the following:** ENG 222 (Topics in Literature and the Environment), HIS 274 (World Environmental History), or MUS 245 (Music and the Natural Environment), MTH 125 (Probability & Statistics), or BIO 245 (Applied Biostatistics for the Life Sciences)
MINOR REQUIREMENTS
To complete the minor, students must successfully complete a total of six courses as follows:

- Three core courses: EVS 101, EVS 201, and EVS 315
- Three electives as follows:
  - One from the Humanities or Arts: ENG 222 (Topics in Literature and the Environment), HIS 274 (World Environmental History), or MUS 245 (Music and the Natural Environment), MTH 125 (Probability & Statistics), or BIO 245 (Applied Biostatistics for the Life Sciences)
  - One from the Social Sciences: EVS 130, EVS 260, EVS 280, EVS 300, EVS 315, SOC 261, SOC 262, SOC 347, SOC 361, POL 313, POL 350 (Regulatory Policy & Environmental Law or Global Resources), ECN 391, CIS 146
  - One from the Natural Sciences: EVS 150, EVS 220, EVS 330, EVS 350, BIO 200, BIO 245, BIO 288, BIO 416, CHM 101, CHM 347 (Special Topics: Environmental Chemistry)

IMPORTANT PIECES OF ADVICE
- Advanced Placement Credit for the Environmental Science Exam is as follows: Students with a "5" earn full credit for EVS 101. Students earning a "4" are awarded credit for having completed an elective from the approved list of "Natural Science" electives. They will still have to take one more elective from Humanities OR Arts and one from Social Sciences. No credit is given for a score below “4.”

- Students entering the Program should be receptive to opportunities for engaging with local/regional environmental issues, taking an internship, and improving the way that they think, communicate, and learn. The Program is designed and delivered to encourage/develop skills that are meant to confront/challenge students and move them beyond their comfort zones. Sustainable development is a cross-cutting theme throughout all courses. Accordingly, students are challenged to examine lifestyles/consumption patterns at the household, community, and national levels. Students are presented with a variety of viewpoints and perspectives.

- Students begin the program in the fall semester of their freshman year by taking either EVS 100 or EVS 101. These are not intended for upperclassmen. The courses assume some high school background in environmental science/studies but, more importantly, a high level of interest concerning the environment. EVS 101 requires some field work under occasionally uncomfortable conditions. Some labs involve the use of computers to model populations and calculate ecological indices.
Courses in the program are numbered in increasing order of complexity and degree of integration. EVS 100 (Introductory Topics in Environmental Studies) is more literary and introduces students to readings considered classics within the various disciplines comprising environmental studies. EVS 101 is more science-based and focuses on analyzing and solving environmental problems. EVS 201 takes knowledge gained from 101 and applies it in critically analyzing and critiquing environmental policies and actions within the global community. The 300-level courses integrate concepts and analyses into specific management/mitigation options. EVS 430 requires the student to apply research techniques from the major field(s) of study to some environmental issue/problem. During development and implementation of this project, the student will consult and be advised by the Director of Environmental Studies and an advisor chosen from another department.

Students are encouraged to apply for a Mazingira Fund (http://www.washjeff.edu/environmental-studies-department) research grant for the summer between the second and third and/or third and fourth year. This fund is also available for January intersession. Interested students should contact Dr. East for specific guidance.

Internship experiences, including the Student Conservation Service, Marine Mammals Institute, Jackson Hole Conservation Alliance, and the PA Department of Environmental Protection may be taken as EVS 198/199 in fulfillment of an EVS elective. With prior consultation, some departments may also allow these to count toward major requirements. Independent study opportunities exist with local NGO’s/non-profits and businesses such as The Observer-Reporter and The Center for Coalfield Justice.

Faculty members who currently serve on the Program Advisory Committee and who may be contacted for specific information are: Dr. Robert East (Program Director), Dr. Stuart Miller, Dr. Tom Contreras, Dr. Dana Shiller, Dr. James March, Dr. Jason Kilgore, Dr. Lauryn Mayer, Dr. Patrick Caffrey, Dr. Nichole Fifer, and Dr. Gregg Osborne. Students should meet with Dr. East early in their academic career.

In each course with an EVS prefix, there is the expectation that the student is coming into the course with some genuine interest in environmental issues. This expectation is manifested in the emphasis on classroom participation, teamwork on projects, individual presentations on current events, and diverse reading assignments. EVS core courses build on themselves. Thus, unless an exceptional case exists where a student has a very strong background in the field, he/she will not be allowed to jump out of sequence in the program’s core courses.
The interdisciplinary nature of EVS courses does not make them “watered-down” versions of course content from major fields of study. EVS courses require varying degrees of integration of ecological, economic, social, and political information and knowledge. For some students, assimilating and synthesizing such information proves difficult and requires a disproportionate amount of reading/preparation. Furthermore, labs in EVS lab science courses are not typical recipe-type lab experiences but are “discovery-based” in nature; that is, outcomes are not always predetermined or known. To this end, students sometimes work in pairs or small groups when analyzing socio-metric/economic data, interpretation of laws and regulations, computer modeling, sampling and analyses of terrestrial/aquatic ecosystems, etc.

Make certain students understand their options when it comes to EVS major core courses. Students may take as many of the optional core courses as they want, but each may only count once as either “core” or “elective.”

In preparation for graduate school, students are strongly encouraged to take a probability and statistics course, a professional writing course, a public speaking course, and geographic information systems and/or another computational science course that focuses on information visualization.
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
- An advanced study option of either advanced forensic laboratory procedures and techniques or advanced aspects of forensic psychology

**FACULTY CONTACTS**
Dr. Candy DeBerry, Professor of Biology,
Dr. Elizabeth Bennett, Professor of Psychology
Dr. Jennifer Logan, Associate Professor of Chemistry

**REQUIREMENTS**
6 courses:
- FOR 100
- PSY 101
- MTH 125 or BIO 245
- PSY 102 or SOC 101
- 1 of PSY 245, PSY 226, PSY 345, PSY 380, SOC 223, or SOC 323
- 1 of BIO 412, CHM 270 and 385, PSY 226, or PSY 345

Psychology majors can count no more than 3 courses from the forensic science minor toward their psychology major. Psychology minors can count no more than 2 courses from the forensic science minor toward their psychology minor.
COURSE TITLES AND TYPICAL FREQUENCIES

- FOR 100: Introduction to Forensic Science *(offered in alternating years, beginning in Spring 2015)*
- PSY 101: Elementary Psychology I *(typically offered every term)*
- MTH 125: Probability and Statistics *(typically offered every term)*
- BIO/MTH 245 Applied Statistics for the Life Sciences *(typically offered every year)*
- PSY 102: Elementary Psychology II *(typically offered every term)*
- PSY 245: Abnormal Psychology *(typically offered every year)*
- PSY 380: Drugs and Behavior *(typically offered in alternating years)*
- SOC 101: Introduction to Sociology *(typically offered every term)*
- SOC 223: Juvenile Justice, an American Dilemma *(typically offered in alternating years)*
- SOC 323: Criminology *(typically offered in alternating years)*
- BIO 412: Experimental Biology: Forensic Biology *(typically offered every term; other topics in BIO 412 do not count toward the Forensic Science minor)*
- CHM 270: Analytical Chemistry
- CHM 385: Chemical Measurements Laboratory: Forensic Chemistry *(other topics in CHM 385 do not count toward the Forensic Science minor)*
- PSY 226: Psychology and the Law *(typically offered in alternating years)*
- PSY 345: Psychopathology of the Criminal Mind *(typically offered in alternating years)*
IMPORTANT PIECES OF ADVICE

- Many of the courses in the minor are offered every other year. Students should plan ahead if they want to be able to take particular elective courses.
- Students majoring or minoring in Psychology should (may prefer to) plan to take SOC 101 and SOC 223, or SOC 323 as part of their Forensic Minor due to the limits on double counting of courses.
- Recommended Electives within the minor vary depending on the student’s interest and goals. See some examples below.

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS

- Assuming that every course will be available every term or every year.
- Overlooking the limit on double counting of courses with the Psychology Major or Minor.

RECOMMENDATIONS BASED ON STUDENT INTEREST

**Students interested in Forensic Science laboratory work** should take either BIO 412 or CHM 385 as part of the minor. In addition, students considering a job in a Forensic Science laboratory or graduate school in forensic science are advised to **major in a laboratory science** and complete the American Academy of Forensic Science recommended science courses as part of their major (courses can be taken as part of a major in Biochemistry, Biology (Cell/Molecular), or Chemistry): 1 Biology Course (BIO 121), 2 Physics Courses (PHY 107 & 108 (or 101 & 102)), 2 Organic Chemistry Courses (CHM 160, 170), and 2 Inorganic/Analytical Chemistry Courses (CHM 260, 270) all with laboratories; 1 Differential and Integral Calculus Course (MTH 151); 3 of BCH 333, BIO 201, BIO 212, BIO 215, BIO 311, CHM 360 (or BCH 320), CHM 460, and CHM 470. An internship in forensic science is strongly recommended. Students considering graduate school or a career in Forensic Science are also encouraged to take Professional Writing and Oral Communication courses.

**Students interested in careers in forensic pathology, forensic dentistry, forensic optometry, or as coroners/medical examiners** are advised to **complete the Pre-Health program** (which can be done in conjunction with any major). Students can thereby have MTH 125 or BIO 245 and BIO 121 also count as Pre-Health requirements. In addition to FOR 100 and PSY 102, they are advised to take either BIO 412 or CHM 385 and 1 of PSY 245, PSY 226, PSY 345, PSY 380, SOC 223, or SOC 323.

**Students interested in a job or graduate study in forensic psychology** are advised to **major in Psychology** and take SOC 101, SOC 223 or SOC 323, and either PSY 226 or PSY 345 as part of their Forensic Science minor. It is also recommended that students take PSY 245 and 330 as part of their major. An internship in a forensic venue is strongly recommended.

**Students interested in careers in the judicial system** (e.g. paralegal, lawyer, judge) are advised to take PSY 102 or SOC 101, PSY 226 or PSY 345, and 1 of PSY 245, PSY 226, PSY 345, PSY 380, SOC 223, or SOC 323 as part of their Forensic Science minor.
Students interested in careers in law enforcement (e.g. Police, FBI, CIA, NSA) are advised to take PSY 102 or SOC 101, PSY 226 or PSY 345, and 1 of PSY 245, PSY 226, PSY 345, PSY 380, SOC 223, or SOC 323 as part of their Forensic Science minor.

Accounting majors with an interest in Forensic Accounting are advised to take PSY 102 or SOC 101, PSY 226 or PSY 345, and 1 of PSY 245, PSY 226, PSY 345, PSY 380, SOC 223, or SOC 323 as part of their Forensic Science minor.

Art majors with an interest in Forensic Illustration and Forensic Photography are advised to take PSY 102 or SOC 101, PSY 226 or PSY 345, and 1 of PSY 245, PSY 226, PSY 345, PSY 380, SOC 223, or SOC 323 as part of their Forensic Science minor.

Art majors with an interest in art forgery and art theft are advised to take CHM 160, 260, and 270 to prepare them for CHM 385. They should also take 1 of BIO 121, PSY 102 or SOC 101, and 1 of PSY 245, PSY 226, PSY 345, PSY 380, SOC 223, or SOC 323 as part of their Forensic Science minor. If possible, they should also minor in Chemistry (CHM 160, 260, 270; 2 CHM courses at the 300-level or higher [one of which should be CHM 385]; and the equivalent of one additional CHM course numbering 170 or above).

CIS majors with an interest in computational forensics, digital forensics are advised to take PSY 102 or SOC 101, PSY 226 or PSY 345, and 1 of PSY 245, PSY 226, PSY 345, PSY 380, SOC 223, or SOC 323 as part of their Forensic Science minor.
Department:  
Major and Minor: Gender and Women’s Studies  
Program: Gender and Women’s Studies

The Gender and Women’s Studies major and minor center on issues of gender, sexuality, and the ways gender and sexuality shape human experience through history and across cultures.

FACULTY CONTACT  
Dr. Carolyn Kyler, Professor of English and Director of the Gender and Women’s Studies Program

GOALS  
W&J Gender and Women’s Studies majors will be able to:  
- Understand the effects of gender categories, both historically and in the present;  
- Demonstrate familiarity with key issues in the history of feminism and the politics of gender and sexuality;  
- Situate gender issues within an intersectional framework of race, class, and other identities;  
- Comprehend, analyze, and apply theories of gender and sexuality;  
- Analyze a range of gender issues across a variety of cultures both in the United States and internationally;  
- Analyze gender issues from a variety of disciplinary perspectives and through making interdisciplinary connections;  
- Frame and investigate questions by locating, evaluating, applying, and documenting relevant information and perspectives;  
- Present cogent arguments in writing, oral presentation, and discussion;  
- Work effectively both independently and collaboratively;  
- Become active producers of knowledge who think critically and creatively.

MAJOR REQUIREMENTS  
10 Courses are required for the major:  
- GWS 100: Introduction to Gender and Women’s Studies  
- GWS 300: Theories of Gender  
- GWS 350: Applied Studies in Gender  
- GWS 500 or 501: Capstone Project  
- 6 GWS electives courses (either with a GWS prefix or affiliated courses approved by GWS) meeting these requirements:  
  o At least 1 elective is at the 300-level or above  
  o Electives represent at least three departments or programs  
  o Electives include at least 1 course, such as GWS 210: Women in Cross-Cultural Perspective, with an international focus.
MINOR REQUIREMENTS
6 courses are required for the minor:
- GWS 100: Introduction to Gender and Women’s Studies
- GWS 300: Theories of Gender
- 4 additional elective courses (either with a GWS prefix or affiliated courses approved by GWS) that must come from at least two departments or programs.
DEPARTMENTAL MEMBERS TO CONTACT FOR AREAS OF SPECIALIZATION
Dr. Patrick Caffrey: Asia; China; environmental history
Dr. Victoria List: Medieval Europe; early modern Europe (18th century); history of England; legal history
Dr. David Kieran: 20th-Century American history
Dr. Tom Mainwaring, Chair: American history to 1900
Dr. Jennifer Sweatman: Modern European history; France

Graduate school: anyone in the department

RECOMMENDED FOUR-YEAR PROGRAM
FRESHMAN YEAR:
Fall Term     Intersession     Spring Term
HIS 100- or 200-level     HIS 100- or 200-level

SOPHOMORE YEAR:
Fall Term     Intersession     Spring Term
HIS 100- or 200-level     HIS 100- or 200-level

JUNIOR YEAR:
Fall Term     Intersession     Spring Term
HIS 200-level     HIS 200-level
HIS 300-level     HIS 300-level

SENIOR YEAR:
Fall Term     Intersession     Spring Term
HIS 300-level     HIS 300-level

RULES OF THUMB REGARDING ENTRANCE ABILITY FOR PARTICULAR COURSES
- All 100-level history courses are reserved for freshmen and sophomores only and can be taken in any order.

- Advisors should inform their advisees that 200-level courses are open to all students, including freshmen and sophomores.

- Freshmen are encouraged to take 200-level courses, especially if they have done well in high school history courses.

- Except in rare instances, all 300- and above level courses are reserved for juniors and seniors who have taken at least one 200-level course.
• 300-level courses frequently have prerequisites.

• To be functionally literate to the degree that a student is able to read a conventional history textbook and a 300–400 page monograph in two weeks’ time; also to have the ability to write a three-page essay of 750–1000 words.

IMPORTANT PIECES OF ADVICE
• Read the pertinent requirements and course descriptions in the College Catalog.

• Students should have an interest in reading and writing; all examinations in every course in the History Department are subject-essay type; some courses at the 200-level and all courses at the 300-level and above require term papers; some courses (300-level and above) require oral presentations as well.

• Students should consider studying a foreign language for four semesters (including beginning and intermediate levels) or for two semesters if one starts at the intermediate level

MOST COMMON MISTAKE MADE IN ADVISING STUDENTS
Students and faculty should avoid the impression that because history is taken in high school there is no need to take a history course in college. History taught in college rarely duplicates the type of history or instruction associated with high school. In a liberal arts environment like Washington & Jefferson College, history should be an integral part of any student's curriculum. Not only will students learn about the world in which they exist, but history courses stress the valuable skills of effective reading and writing.
The Interfaith Leadership Studies concentration is designed to equip students with knowledge and skills that will enable them to become professional and civic leaders in a religiously diverse society.

FACULTY CONTACT
Dr. Olga Solovieva

CONCENTRATION REQUIREMENTS
Four courses (courses must be taken from at least two different departments):

- 1 course from: REL 101, REL 104, or REL 106
- 2 courses from: CRS 101, CRS 247, ENG 226, ENG 355 (Holocaust Literature), HIS 285, HIS 305, HIS 355, PHL145, POL 120, POL 232, REL 102, REL 105, REL 115, REL 205, REL 207, REL 217, REL 274, REL 307, SOC 232
- REL 309, Interfaith Leadership and Understanding in Theory and Practice

IMPORTANT PIECES OF ADVICE
- Elective courses may be taken in any order, although some might have prerequisites.
- REL309 must be taken after completing all affiliated courses or concurrently with the last one.
- With advance approval by the program coordinator, a student may complete an internship or independent study as one of the elective courses.
- The concentration is available to students in any major. Students minoring in Religious Studies may not count more than one of same courses toward the completion of each course of study.
The International Studies major 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 provides students the opportunity to study in relative depth one geographical location of the world through area study, language study, and study abroad.

FACULTY CONTACT
Dr. Buba Misawa, Program Director and Professor of Political Science
Dr. Katherine Ternes, Modern Languages

IMPORTANT PIECES OF ADVICE
• Plan study abroad experience well in advance; see International Studies Program Director and Director of Study Abroad early in the planning stage

• Begin foreign language study early in college career in order to reach intermediate level

• Maintain a 2.5 GPA to be eligible to study abroad

• Seek Program Director’s input and approval regarding the Capstone Experience, which may be an approved independent study, internship, or project/practicum

• The two required core courses, ECN 102 and POL 120, are also designated Behavioral and SSC courses.

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS
• Not realizing that majors must take two courses of a foreign language at the intermediate level or above

• Not realizing that majors must spend a minimum of one semester studying abroad; it is highly recommended that majors take at least one course in the language of their host country; a cumulative GPA of 2.5 is required to study abroad
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.

**FACULTY CONTACT**
HJ Manzari, PhD., *Director*

**MINOR REQUIREMENTS**
The Latin American Studies minor requires seven courses.
- 2 courses in the Spanish language at the 207 level or higher
- 1 course from Group 1 to fulfill a Latin American History component
- 4 additional courses must be selected from a combination of Group 1 and Group 2 or from Group 2.
  - Group 1: POL 250, HIS 260, HIS 261, or SPN 289.
  - Group 2: ENG 255, ENG 355, EVS 315, EVS 300, FRN 457, MUS 241, MUS 341, SPN 371, SPN 311, SPN 420, SPN 421, or SPN 457.

When the following courses are taught with a specific emphasis on Latin America they may also count as electives toward the minor: 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 (requires 2.5 cumulative GPA minimum); an internship away; a Mazingira project; a short-term study away/service learning project or Intersession trip.

**IMPORTANT PIECES OF ADVICE**
- 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, Latin-American themed Intersession courses will be counted.
- 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 seven required courses for the minor may be counted toward the Spanish major as well.
FACULTY CONTACTS
Dr. Ryan Higginbottom, Chair, and any other member of the Math Department

RECOMMENDED FOUR-YEAR PROGRAM

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 151/152</td>
<td>MTH 152/208</td>
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<table>
<thead>
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<th>Sophomore Year</th>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 208</td>
<td>MTH 217</td>
<td></td>
<td>Possible upper-level MTH course</td>
</tr>
<tr>
<td>MTH 211</td>
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<table>
<thead>
<tr>
<th>Junior Year</th>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 320 (1/2 course)</td>
<td>At least 1 upper-level MTH course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At least 1 upper-level MTH course</td>
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<tr>
<th>Senior Year</th>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 420 (1/2 course)</td>
<td>At least 1 upper-level MTH course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MTH 412 or MTH 415</td>
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</table>

NOTES
- MathTalk half courses (MTH 320 and MTH 420) may be taken in either the fall or spring; students pursuing secondary teacher certification are the exception and should take MTH 420 in the fall.

- In addition to MTH 320 and MTH 420, a Mathematics major must take at least three courses numbered above 300 and at least one of MTH 412 or 415. Note that 412 and 415 are offered only in fall terms.

- A Mathematics major seeking secondary teacher certification must take MTH 301, MTH 412, MTH 125 or MTH 305 and take MTH 420 during the fall of the senior year. MTH 125 does not count towards the math major.

RULES OF THUMB REGARDING ENTRANCE ABILITY FOR PARTICULAR COURSES
See the section on math placement in this guide
IMPORTANT PIECES OF ADVICE

- Students should do well (“B” or better) in Calculus I and II to major in mathematics.

- Students who want to complete a math major in four years should try to complete MTH 208 (Multivariable Calculus), MTH 211 (Foundations of Higher Mathematics), and MTH 217 (Linear Algebra) by the end of the sophomore year.

- Plan mathematics course schedule with a mathematics faculty advisor.

- A student who desires secondary teacher certification in mathematics must plan carefully to complete the major prior to the spring term of the senior year, which is reserved for student teaching.

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS

- Ignoring the placement test score

- Enrolling students in MTH 111 (Precalculus) who do not intend to take MTH 151 (Calculus I)

- Allowing a student to move on in mathematics when they are earning C’s or worse in prerequisite courses. The way only gets steeper. Do not send a student into Calculus I with lower than a C in Precalculus!

- Not sending students who are interested in majoring in the mathematics to an advisor in the Mathematics Department
The Mind and Language Program offers an interdisciplinary examination of language and mind through a combination of courses in several disciplines. 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.

FACULTY CONTACT
Dr. Guido Halder, Modern Languages
Dr. Judith Atzler, Modern Languages

MINOR REQUIREMENTS
6 Courses:
- LAN 200: Linguistics
- PHL 123: Introduction to Logic
- PHL 242: Philosophy of Mind
- The remaining 3 courses are chosen from the program-approved list below.
  - ENG 202 (some sections), ENG 228, ENG 302, ENG 500, FRN 500, GER 500, LAN 347, LAN 500, PHL 222, PHL 370 (some sections), PHL 500, RUS 500, SPN 500, ENG/LAN/PHL 281 (Intersession Course). 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.

IMPORTANT PIECES OF ADVICE
- 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.
- Students may take up to three courses in the same department as their major to count toward the Mind and Language minor.
- 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.
Department: **Modern Languages**

Majors and Minors: **Chinese** (minor only), **French, German, and Spanish**

International Business Majors: **French, German, and Spanish**

Teacher Certification: **French, German, and Spanish**

Additional Courses: **Arabic, Chinese, and Russian**

**FACULTY CONTACTS**

(* denotes Program Coordinator, ^ denotes Department Chair)

**Spanish**

Dr. Amparo Alpañés *
Dr. HJ Manzari (International Business Co-Director)
Dr. Christy Shaughnessy ^
Dr. Katherine Ternes (Secondary Education Contact)

**French**

Dr. Sharon Taylor
Dr. Katrine Pflanze *
Dr. Susan Crampton-Frenchik

**German**

Dr. Judith Atzler *
Dr. Guido Halder
Dr. Michael Shaughnessy

**Russian**

Dr. Susan Vdovichenko
Dr. Han Ye * (Non-Major Languages Director)

**Chinese**

Dr. Han Ye *

**Arabic**

Dr. Han Ye

**International Studies Contact**

Dr. Katherine Ternes

**Latin American Studies Contact**

Dr. HJ Manzari

**Mind and Language Program Contacts**

Dr. Guido Halder
Dr. Judith Atzler
RECOMMENDED FOUR-YEAR LANGUAGE MAJOR PROGRAMS
The department currently offers majors in French, German and Spanish. Since the Department offers advanced placement, major requirements vary according to entry level. This chart outlines various ways students can achieve a major in modern languages.

### No Previous Language Experience:

<table>
<thead>
<tr>
<th>Class Year</th>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>105</td>
<td></td>
<td>106</td>
</tr>
<tr>
<td>Sophomore</td>
<td>207</td>
<td></td>
<td>208</td>
</tr>
<tr>
<td>Junior</td>
<td>309</td>
<td>Intersession course on campus or abroad*</td>
<td>310 (Study Abroad, +2 400-levels)</td>
</tr>
<tr>
<td>Senior</td>
<td>4XX</td>
<td></td>
<td>4XX</td>
</tr>
</tbody>
</table>

*Intersession courses on campus or abroad may count toward the major per approval of the language coordinator and Department chair. Intersession courses abroad and Magellan projects do not fulfill the study abroad requirement for our major programs.

### Intermediate Proficiency:

<table>
<thead>
<tr>
<th>Class Year</th>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>207</td>
<td></td>
<td>208</td>
</tr>
<tr>
<td>Sophomore</td>
<td>309</td>
<td></td>
<td>310 (study abroad)</td>
</tr>
<tr>
<td>Junior</td>
<td>4XX (Study abroad up to 3 400-level courses)</td>
<td></td>
<td>4XX (Study abroad)</td>
</tr>
<tr>
<td>Senior</td>
<td>4XX-level</td>
<td></td>
<td>4XX-level</td>
</tr>
</tbody>
</table>

### Advanced Proficiency:

<table>
<thead>
<tr>
<th>Class Year</th>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>309</td>
<td></td>
<td>310</td>
</tr>
<tr>
<td>Sophomore</td>
<td>4XX (Study abroad-up to 3 400-level courses)</td>
<td></td>
<td>4XX</td>
</tr>
<tr>
<td>Junior</td>
<td>4XX</td>
<td></td>
<td>4XX</td>
</tr>
<tr>
<td>Senior</td>
<td>Capstone</td>
<td></td>
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</tr>
</tbody>
</table>
Department: Modern Languages
Majors and Minors: Chinese (minor only), French, German, and Spanish
International Business Majors: French, German, and Spanish
Teacher Certification: French, German, and Spanish
Additional Courses: Arabic, Chinese, and Russian

All language majors must satisfy the study abroad requirement, which requires a cumulative GPA of 2.5. Students are encouraged to discuss their plans to major or minor with a language program coordinator. They can design an individual plan of study based on their ability and interest in study abroad. Many courses offered abroad at the 400-level may satisfy requirements in other majors.

MINOR REQUIREMENTS
The department currently offers language minors in Chinese, French, German, and Spanish. Like the major, minor requirements vary according to entry level:

Students who begin in 105 will take seven courses: 105, 106, 207, 208, 309, 310, and one 400-level course; students who begin in 106 can complete a minor with 6 courses, excluding 105.

Students who begin in 207 will take five courses: 207, 208, 309, 310, and one 400-level course; students who begin in 208 must take five courses to complete a minor, excluding 207.

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

RULES OF THUMB REGARDING ENTRANCE ABILITY FOR PARTICULAR COURSES
See the section on language placement in this guide

TEACHER CERTIFICATION IN FOREIGN LANGUAGES
Students may seek K–12 Certification in French, German, or Spanish and should refer to the Education Department’s Handbook for detailed information.

INTERNATIONAL BUSINESS MAJORS
The Department of Modern Languages, in conjunction with the Department of Economics and Business, offers an interdisciplinary major in International Business with a specialization in French, German, and Spanish; see the Economics and Business section in this guide for information.
IMPORTANT PIECES OF ADVICE

- Study abroad is available for all languages of study (except Arabic) and is required for majors in French, German, and Spanish. A cumulative GPA of 2.5 is required for study abroad.

- Students wishing to major, certify, or concentrate in a language should be prepared to spend at least one semester studying in a target language location.

- Opportunities for short-term travel and immersion in a target language area are frequently offered by W&J faculty; while such courses provide an excellent introduction to living and studying abroad, they are not in themselves substitutes for extended immersion and do not count as fulfillment of the study abroad requirement.

- Students interested in study abroad should consult with the relevant program faculty members and the Office of Study Abroad as soon as possible to select an appropriate program and plan a course of study. As noted above, a cumulative GPA of 2.5 is required to participate in study abroad.

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

- Courses taken on approved programs abroad may count toward satisfying multiple requirements (including physical education), especially in a second major.

- If a student is thinking about graduate study in a foreign language, they should talk to one of the Modern Languages faculty about the appropriate course of study. They should plan to study abroad for a year.
Department: Modern Languages
Majors and Minors: Chinese (minor only), French, German, and Spanish
International Business Majors: French, German, and Spanish
Teacher Certification: French, German, and Spanish
Additional Courses: Arabic, Chinese, and Russian

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS

- Not advising students to take foreign languages as soon as possible; since they are blocked from registering for courses below their level of placement, it is easiest when they take their language requirement courses during their first year of study at W&J.

- Placing overqualified students in elementary courses. 105 is for true beginners and those with one year or less of HS study, 106 (2-3 yrs), 207 and above (3-4 years+ depending on the student). The student should consult with ML faculty to determine correct placement for 207 and above.

- Majors have greater flexibility in planning their course of study if they begin at the intermediate level

- Taking courses out of sequence; for example, 106 before 105

- Students cannot take beginning level courses in two different languages to satisfy the all-college foreign language requirement (i.e. SPN 105 & FRN 105). If starting at the beginning level, depending on their placement, they must take 105 & 106 OR 106 & 207 of the SAME language.

- If starting at the intermediate I level (207), they are only required to complete one semester. If they place in 208 or higher, they have fulfilled the language requirement and would be an excellent candidate for a major or minor in that language.

- Believing that one can “pick up” a language in one year; successful language learning depends on consistent and continuous practice over time

- Not being aware that we offer Arabic or Chinese

- Believing that interrupting foreign language study for a semester or a year will have little negative effect on students’ language development or performance in class

- Believing that a student who studies abroad for a semester or year will be disadvantaged or “behind” in another major upon return; many study abroad programs offer courses in other subjects and disciplines, which can be approved for transfer credit

- Not advising advanced students to continue to enroll in advanced courses, even after they have completed their major requirements in a language

- Not being aware that students may now double major in languages

- Students can take languages (such as American Sign Language, Italian, etc.) that we currently do not offer at other accredited institutions and transfer them to W&J for credit. However, we do not accept online language courses for credit. The student should meet with the Chair of Modern Languages prior to enrolling in any outside course.
RULES OF THUMB FOR ANYONE CONSIDERING A MAJOR OR MINOR

- When considering a major or minor, contact the Department Chair as soon as possible so you will be aware of the opportunities and events designed especially for those with strong music interest. The annual Music Major/Minor Exchange, held in October is a vital planning session that addresses general and individual questions.

- Take MUS 205 and 206 “Music Theory 1 and 2” as soon as possible. Students must pass MUS 204 final exam with a C or better to enter MUS 205.

- MUS 101 “Introduction to Global Music” and MUS 210 “Survey of Western Music History” should be taken as soon as possible.

- For entry into MUS 205, students must pass a basic skills test administered by the Music Department or take MUS 204 “Music Theory Fundamentals,” typically offered in the term preceding MUS 205.

- It is a common practice and completely viable for students to double major in Music and another discipline. However, students must plan carefully if they wish to study abroad, as the Music Theory sequence is offered on a two-year cycle.

- Students considering a Minor must communicate at least once each term with the Department Chair. Minors are also strongly advised to designate a Music Department faculty member as a secondary advisor of record with the Registrar.

RULES OF THUMB REGARDING ENTRANCE ABILITY FOR PARTICULAR COURSES

- With the exception of MUS 205 and 206, all 100- and 200-level courses are available to all students without prerequisite. When in doubt concerning adequate background, consult the Chair or course instructor.

- All 200-level are appropriate for freshmen. 200-level courses are less generalized, but expect the same the same level of academic work as 100-level courses.

- 100-level courses such as MUS 101 “Introduction to Global Music” are open to seniors unless noted in Web Advisor. However, advisors should discuss with the advisee the appropriateness of a senior taking a 100-level course.

RULES OF THUMB REGARDING APPLIED MUSIC (PERFORMANCE) COURSES (MUA)

- Know that private instruction (MUA courses 121-191) carries a non-refundable Applied Music fee noted in the Fees column in Web Advisor.

- MUA courses are partial credit, graded courses; ensembles are 1 credit or ¼ course; lessons are 2 credits or ½ course
• MUA courses should be taken on top of the regular four-course load unless otherwise advised by a member of the Music Department faculty.

• MUA courses may be “stacked” for a total number of credits that exceeds the equivalent of a fifth course without incurring tuition charges for a fifth course. In other words, the fifth course policy does not apply to “MUA” courses.

• MUA 101 “Choir,” MUA 111 “Wind Ensemble,” and MUA 211 “Jazz Ensemble” are typically open to all students—no audition is required. MUA 221 “Chamber Ensemble” is open to all students, but the student should consult with a music professor before enrolling.

• MUA 201 “Camerata Singers” requires enrollment in MUA 101 and an audition in the first week of school with Dr. Medley. Dr. Medley initiates the audition process at the first meeting MUA 101.

• Private lessons (MUA 121-191) carry a fee. Consult Web Advisor for the amount. The fee is folded into the tuition bill for the term in which the student is enrolled.

• Private lessons entail 1 one-hour lesson per week for a total of 12 lessons in the semester.

• Private lessons require a “jury” or exam at the end of the term heard by the music faculty.

IMPORTANT PIECES OF ADVICE
• Each music course will typically be offered at least once during each two-year cycle. When a course is not on a two-year cycle, substitute courses will be available (for example, MUS 211, 212, 213, and 215 are interchangeable.)

COMMON ADVISING MISTAKES FREQUENTLY MISREPRESENT THE FOLLOWING
• MUS 204 “Music Theory Fundamentals” cannot be counted toward a major or minor in Music.

• In order to receive credit for the ARTS (2015 and prior) or ARTISTIC (2016 and forward) curriculum requirement by taking Applied Music ensemble courses, students must be registered and perform at a satisfactory level for four semesters. ARTS/ARTISTIC credit is given only to ensemble courses MUA 101 “Choir,” MUA 201 “Camerata,” MUA 111 “Wind Ensemble,” and MUA 211 “Jazz Ensemble”. Private lessons do not count towards the ARTS or ARTISTIC curriculum requirement.

• 100-level courses and 200-level courses are open without prerequisite and require no musical background or expertise.

• All MUS courses are college-level courses, require college-level thinking and study skills, and should not be misconstrued as being “easier” than courses in the other divisions, even at the introductory level.
FACULTY CONTACT
Dr. Kelly M. Weixel, Director of the Neuroscience Program

RULES OF THUMB REGARDING ENTRANCE ABILITY FOR PARTICULAR COURSES

- The Neuroscience major/minor is a rigorous interdisciplinary course of study, administered jointly by a steering committee with representation from the Biology and Psychology departments. In general, students who qualify for the majors in Biology or Psychology can do well in Neuroscience. However, students should be aware that the Neuroscience major requires a full year of Physics as well CHM160, and a mathematics course satisfied by MTH 151, MTH 125 or BIO 245. See the catalog for details. Students majoring in Neuroscience may not double major in Biology or Psychology.

- NSC 210 is the typical entry into the Neuroscience Program. It is offered three out of every four terms. The NSC program tries to offer it every term, and makes arrangements when this cannot happen. Students must have completed at least one semester of introductory science. This can be from biology, psychology, chemistry, or physics.

- Students may take NSC 300 before NSC 210, but only if they have had BIO 121 and 131 first. It is not recommended that students take NSC 300 prior to NSC 210, but understood that this may happen. For instance, if a student has had BIO 235, they MIGHT be adequately prepared to take NSC 300. It is strongly recommended that students who are minoring in NSC take at least BIO 121 or CHM 160 prior to taking NSC300. It is not currently a prerequisite, but current assessment of the course indicates that students who have a stronger science background persist and do better in this course, the steering committee is evaluating the prereqs for this course. Please feel free to contact Kelly Weixel about this course if you have questions.

- Students taking NSC 400 MUST have completed both NSC 210 and NSC 300. In some cases NSC 300 and 400 can be taken simultaneously with permission of instructor (this is not recommended).

- Students MUST complete a research project and present their results to the Neuroscience Committee to complete the program. This research project could be completed as an independent study/internship/tutorial on campus or it may be satisfied by an off-campus internship/REU. Students interested in the program should start thinking about the research project at least one year before they intend to carry out the research AND be sure to discuss any off-campus project with the Program Director to assure that this internship will fulfill the research requirement.
IMPORTANT PIECES OF ADVICE

- Recognize that NSC 300 is a “Q” course and NSC 400 is both a “C” and a “W” course for the curriculum requirements (2015 and prior)

- The research project in neuroscience can often double as a capstone for Biology and Psychology majors (and possibly as a capstone for other majors as well); Students often complete their research requirement during the summer between, or during, their junior and senior years.

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS

- Recognize that only one semester of science is required before enrolling in NSC 210; many freshmen can qualify for the course (e.g., if they have had BIO 121 or PSY 101 in the fall term).

- Get students to think about the research requirement early, at least one year before they are to carry out the project; students should talk to neuroscience faculty about potential projects as soon as they are interested in the program.

- It is possible to complete the neuroscience coursework in two academic years: NSC 210 in fall of year 1; NSC 300 in spring of year 1; NSC 400 in spring of year 2. However, students must consider the Physics requirement as beneficial to their success in NSC300 and 400.
FACULTY CONTACTS
Dr. Hanna Kim, Associate Professor of Philosophy
Dr. Gregg Osborne, Chair and Associate Professor of Philosophy
Dr. Andrew Rembert, Professor of Philosophy
Dr. Michael Wolf, Associate Professor of Philosophy

RECOMMENDED FOUR-YEAR PROGRAM
FRESHMAN YEAR:
At least one 100-level PHL course
PHL 123 (Introduction to Logic)

SOPHOMORE YEAR:
Additional 100-level PHL course(s)
PHL 201 (Classical Philosophy)—fall
PHL 204 (Early Modern Philosophy)—spring

JUNIOR YEAR:
At least one 300-level PHL course

SENIOR YEAR:
PHL 450 (Senior Research Seminar)—fall

RULE OF THUMB REGARDING ENTRANCE ABILITY FOR PARTICULAR COURSES
100-level philosophy courses are appropriate for beginning philosophy students and have no prerequisites; some 200-level courses may be taken without prerequisites, but in some require one previous philosophy course or permission of the instructor; check the course listing for details.

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS
• Philosophy has connections to many other fields and provides excellent training for any profession, such as law, which requires close reading, clear and critical reasoning and expression, and a grasp of the broader setting and ramifications of immediate, day-to-day issues; besides which, the field of philosophy is intrinsically fascinating. Many Philosophy majors are double majors, combining Philosophy and another subject.

• Failing to think of PHL 123 (Introduction to Logic) as a quantitative course and an introduction to careful reasoning

• For graduate study in philosophy, the major requirements are sufficient.
FACULTY CONTACT
Dr. Olga Solovieva, Director of Religious Studies

RULES OF THUMB REGARDING ENTRANCE ABILITY FOR PARTICULAR COURSES

- Many Religious Studies courses satisfy the “Historical” breadth of study requirement for the current curriculum. Some also help satisfy the Humanities requirement (2015 and prior) curriculum requirement.

- Religious Studies courses that are comparative or focus on non-Christian material typically carry “Diversity” designations.

- Most 300-level Religious Studies courses carry “W” or WRITE designation.

- There are no prerequisites for introductory- and intermediate-level (100 and 200) courses listed in the College Catalog.

IMPORTANT PIECES OF ADVICE

- A minor in Religious Studies is available; in exceptional cases, a thematic major may be created.

- The minor requires six courses, some of which may be taken outside the department—check offerings in History, English, and Philosophy in particular; two Intersession courses may be counted toward the minor.

- Other minor requirements: REL 101, Introduction to Religious Studies (in exceptional cases, this requirement may be waived by the Director); one 300-level course; at least one course must be either a comparative course (dealing with several religious traditions) or focus primarily on the non-Western religious tradition(s)

- The minor can include an independent study fashioned around areas of interest; independent studies are normally limited to advanced students during the senior year.

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS

Religious Studies courses are an important part of liberal arts curriculum and are designed for all students, not simply for “religious” students. They might be particularly relevant to students interested in international studies, political science, history, gender and women’s studies, conflict and resolution studies, psychology, and health professions, etc.
FACULTY CONTACTS
Any member of the Physics Department; contact Dr. Mike McCracken for questions about engineering.

RECOMMENDED FOUR-YEAR PROGRAM
FRESHMAN YEAR:
Fall Term  Intersession  Spring Term
PHY 107  
MTH 151  

SOPHOMORE YEAR:
Fall Term  Intersession  Spring Term
PHY 209  
MTH 208  

JUNIOR YEAR:
Fall Term  Intersession  Spring Term
PHY 3xx*  
PHY 322  

SENIOR YEAR:
Fall Term  Intersession  Spring Term
PHY 3xx*  
PHY 441  

NOTE
*Only three of these 300-level Physics courses are required for the major. Some courses are specifically required; see catalog for details.

RULES OF THUMB REGARDING ENTRANCE ABILITY FOR PARTICULAR COURSES
• PHY 101 & 102 are algebra based, highlight biological applications, are not “easier” than PHY 107 & 108; aimed at students who do not plan to take calculus, and students who will not continue on to PHY 209.
• PHY 107 & 108 are calculus based; recommended introductory courses for those pursuing a Physics major, dual-degree engineering, graduate school in the sciences, and for those who have taken calculus.
• Students taking either PHY 101 or PHY 107 in 2017/18 will register for a separate lab section; the lab sections will be numbered PHY 100L. Students from 101 and 107 will take the same labs. Any student in either course can sign up for any of the lab sections.
• MTH 151 Calculus I is required for PHY 107, but may be taken concurrently. If in doubt, consult with course instructor.

• Students with weaker math skills should start with PHY 101. PHY 108 is required for the Physics major. Students who begin in PHY 101 may switch to PHY 108 in the Spring semester.

IMPORTANT PIECES OF ADVICE
• Enroll in math courses immediately if interested in majoring in physics, as Calculus I, II, and III are prerequisites for many physics courses; not taking Calculus I early on can make completing and/or enjoying upper-level physics courses difficult.

• Many majors start taking physics courses sophomore year; doing so does not create significant problems, but may make it difficult to fit general education courses into the junior or senior years.

• Many interesting career options outside of physics (e.g., business, finance, computing, engineering) or interdisciplinary careers (e.g., biophysics) are available to Physics majors.

• Some indicators of physics aptitude are a curiosity about why and how things happen (e.g., What is light? What is electricity? What is a laser and how does it work?) and enjoyment of solving problems, especially quantitative problems and puzzles.

MOST COMMON MISTAKE MADE IN ADVISING STUDENTS
The absolute most important advice for any student who might possibly major in physics is to take mathematics courses as soon as possible! Some students have found their education was made much more difficult because they were not encouraged to take a math course in their freshman year. In addition, in a culture that is uncomfortable with mathematics, evidence of mathematical ability distinguishes students no matter what their eventual major. If a student tells an advisor that she/he wants to major in Physics, but dislikes/is not good at Mathematics, the advisor should proceed with caution.
FACULTY CONTACTS
Members of the Biological Physics Committee (Drs. Bayline, Christenson, Leonard, McCracken, Sheers) or members of the Physics Department (Drs. Christenson, McCracken, and Sheers); Dr. McCracken would be a good first contact.

RECOMMENDED FOUR-YEAR PROGRAM

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
</tr>
</thead>
</table>
| Freshman | PHY 107  
          | MTH 151  
          | First Year Seminar | PHY 108  
          | MTH 152  
          | ENG 111 or 112 |
| Sophomore  | PHY 209  
             | BIO 121  
             | CHM 160  
             | PHY 234  
             | BIO 131  
             | CHM 170  
             |
| Junior    | PHY 317  
             | CHM 260  
             | PHY 313 or PHY 331*  
             | CHM 270  
             |
| Senior    | BIO 212, 311, 314 or NSC 300*  
             | PHY 441  
             | BCH 333  
             | PHY 327  
             | PHY 442  
             |

RECOMMENDED FOUR-YEAR PROGRAM FOR PRE-HEALTH STUDENTS WHO WANT TO TAKE THE MCAT DURING JUNIOR YEAR

<table>
<thead>
<tr>
<th>Year</th>
<th>Fall Term</th>
<th>Intersession</th>
<th>Spring Term</th>
</tr>
</thead>
</table>
| Freshman | PHY 107  
          | MTH 151  
          | CHM 160  
          | First Year Seminar | PHY 108  
          | MTH 152  
          | CHM 170  
          | ENG 111 or 112 |
| Sophomore  | PHY 209  
             | BIO 121  
             | CHM 260  
             | PHY 234  
             | BIO 131  
             | CHM 270  
             |
| Junior    | PHY 317  
             | BIO 212, 311, 314 or NSC 300*  
             | PHY 390  
             | PHY 313 or PHY 331*  
             | BCH 333  
             |
| Senior    | PHY 441  
             | PHY 442  
             | PHY 327  
             | PHY 442  
             |

*Students interested in neurophysics are recommended to take NSC 300 and PHY 313; students interested in molecular biophysics are recommended to take BIO 212 or 311 and PHY 331
IMPORTANT PIECES OF ADVICE

- Because of the sequence of prerequisites, it is important to take calculus and physics as early as possible.

- It’s possible for a major to take calculus and chemistry, or calculus and biology, freshman year; however, this may require the student to take some upper-level physics courses out of order.

- Pre-Health students who wish to take the MCATs junior year should take two sciences (PHY + CHM or PHY + BIO) plus calculus freshman year; this is possible if the student takes ENG 111/112 spring term freshman year; students who are assigned composition during the fall can appeal to English Department Chair to switch terms; FYS advisors should be on the lookout for this situation.

- Students should consult with members of the Physics Department and the Biological Physics Committee about the scheduling of upper-level courses before junior year.

MOST COMMON MISTAKE MADE IN ADVISING STUDENTS

Not scheduling calculus and at least one additional science course each semester of freshman year could lead to difficulty in completing the Biological Physics major in four years. The best approach is to take math courses as soon as possible. PHY 101 and 102 are accepted for the Biological Physics major, but PHY 107/108 are preferred.
DEPARTMENTAL MEMBERS TO CONTACT FOR AREAS OF SPECIALIZATION
Dr. Joe DiSarro, Chair: Pre-law
Dr. Jim Benze: Graduate study in public policy/administration
Dr. Nichole Fifer: Graduate study in public administration and environmental policy
Dr. Zheya Gai: Graduate study in political economy/international studies
Dr. Buba Misawa: Graduate study in comparative/international studies

RECOMMENDED FOUR-YEAR PROGRAM
FRESHMAN YEAR:
Fall Term: POL 110 or ENG 111 or 112
ENG 111 or 112
First Year Seminar
Foreign Language
PED

SOPHOMORE YEAR:
Fall Term: POL 120 or MTH 125 or ACC 211
Foreign Language

JUNIOR YEAR:
Fall Term: POL 340 or HIS 206 or PHL 323 or Elective
ECN 102

SENIOR YEAR:
Fall Term: POL 342 or 411 or POL 450 Capstone or Elective

RULE OF THUMB REGARDING ENTRANCE ABILITY FOR PARTICULAR COURSES
All students are advised to take the LSAT or GRE in their junior year
IMPORTANT PIECES OF ADVICE
• Consult regularly with your department advisor.

• All freshmen should consult with Dr. Gai.

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS
• Putting students in 300-level courses or above before they have had 110, 111, and 120

• Advising students who have had 100 to take 111; they should take 110 instead

• Advising freshman Political Science majors to take 100 rather than 110
The Public Policy Program offers a Major in Public Policy; a Minor in Public Policy; and four emphases within the major –Environmental Policy, Law and Policy, Public Administration, and US Policy.

FACULTY CONTACT
Nichole Fifer, nfifer@washjeff.edu

MAJOR REQUIREMENTS

11 courses:

- 3 introductory courses: ECN 102 Macroeconomics, POL 111 Processes of American Government, and PPL 213/POL 213 Public Policy
- MTH 125 Probability and Statistics
- POL 340 Research Methods
- 1 ethics course from the following: PHL 135 Social and Political Philosophy, PHL 231 Environmental Ethics, or POL 342 Political Thought-Modern
- 3 courses in one of the following policy emphases:
  - *Public Administration*: POL 310 Public Administration, ACC 211 Financial Accounting, BUS 301 Organizational Behavior and Management Principles, ECN 322 Economic of the Public Sector
- 1 field specific internship approved by PPL director (taken prior to or concurrently w/ PPL 360)
- PPL 360 Public Policy Internship Experience and Colloquium
- PPL 400 Policy Analysis Seminar (capstone)
MINOR REQUIREMENTS
6 courses:
- POL 111 American Political Process
- PPL 213 / POL 213 Public Policy
- MTH 125 Probability and Statistics or POL 340 Research Methods
- PPL 400 Policy Analysis Seminar

IMPORTANT PIECES OF ADVICE
- 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.

- Public Policy 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.
Any student planning to complete the recommended Pre-Health Program should register with the Pre-Health Professions Committee when announced in the fall, as well as obtain a copy of the “Pre-Health Handbook,” which is available through members of the Pre-Health Professions Committee, online at www.washjeff.edu/health-professions, and in the Pre-Health Library in Swanson 300C.

MEMBERS OF THE PRE-HEALTH PROFESSIONS COMMITTEE (PHPC)
Dr. Ronald Bayline, Biology
Dr. Patricia Brletic, Chemistry
Dr. Faun Doherty, Mathematics
Dr. Danielle Ficco, Sociology
Dr. Mark Harris, Chemistry; Chair of PHPC
Dr. Alice Lee, Biology
Dr. Steven Malinak, Chemistry
Dr. Kathleen McEvoy, English
Dr. Stan Myers, Professor Emeritus of Psychology
Dr. Anupama Shanmuganathan, Biology
Dr. Michael Wolf, Philosophy

INFORMATION REGARDING PLACEMENT OF PRE-HEALTH STUDENTS
From the Chair of the Pre-Health Professions Committee: Many students will enter W&J with the intention to take health-professional school admission tests right after the end of their junior year to enable matriculation to professional school in the August immediately following graduation. Students who fall into this category should use their Pre-Health Handbook, as well as discussions with a Pre-Health advisor, to ensure that they are prepared to meet the academic background requirements for these admission tests and for the Pre-Health Professions Committee’s recommendation process. This pathway may not be the best choice for all students. It is advantageous to identify less well-prepared Pre-Health students as soon as possible to ensure that we can address their immediate needs. Then we can take proper steps to help them become attractive candidates for health-professional school or consider alternate careers in the health professions (see additional information at the end of this entry).

IMPORTANT PIECES OF ADVICE
• Students with a (minimum) SAT score of 1200 (600 V & 600 M) may consider taking two lab sciences (CHM 160 & BIO 121) their first semester freshman year, plus MTH 151 if required by a specific major. However, SAT scores have limited predictive ability, so students should also consider the strength of their high school science background when deciding whether to take one or two lab sciences the first semester. They are also welcome to consult the Chair of Pre-Health. Students can still complete pre-health requirements if they take only one lab science the first semester.
If the SAT V+M score total is less than 1200, students should usually take at most one lab science course their first term:

- If a potential Pre-Health student only wants to take one lab science course his/her first semester freshman year, that course should be CHM 160. If in doubt, please seek advice from the Biology or Chemistry Departments or from the Chair of the Pre-Health Professions Committee.

- Based on an analysis of multi-year data from the last five CHM 160 offerings, incoming students with certain combinations of SAT (or ACT) scores, W&J Math Placement test score, and high school GPA have a close to 90% likelihood of achieving a C or lower in CHM 160. Potential pre-health students in this category are advised to take, and were placed into, CHM 147 (Chemical Foundations) as their first-term science course. CHM 147 is designed to teach foundational chemical and mathematical concepts, as well as study skills for the sciences, to prepare students for subsequent laboratory science courses.

Students interested in taking the MCAT right after the end of their junior year (the “conventional pathway”, although not the most successful approach nationally) may benefit from taking two lab science courses during their freshman year if qualified based on SAT scores and high school background. Students may still be able to follow the “conventional pathway” with only one science course freshman year, but this will likely require “doubling up” on science lab courses during the sophomore and junior years and/or taking summer science courses at W&J.

Being a “non-traditional” Pre-Health student and not completing all Pre-Health coursework in three years is not a “bad” thing. A slow, steady, successful set of science courses is much better than a fast, less successful approach.

Avoid taking three laboratory science courses in one term.

Although some students may not have adequate credentials for medical or dental school or an impressive freshman year, they still may have prospects in a number of other health-professional fields; see the text below that describes alternate career paths in the health professions.

Plan ahead and draft a tentative course schedule for all four years at W&J.

Students should plan study abroad travel well in advance; study abroad may require either taking a “non-traditional” direction or summer school courses to stay on the “conventional” pathway. Note that US medical schools do not accept medical school pre-requisites taken abroad. Also, students must consider their availability for health professional school interviews when making study abroad plans.
ALTERNATE CAREERS IN THE HEALTH PROFESSIONS
Beyond the “typical” careers in the health professions (medical school, dental school, physical therapy school, etc.), there are numerous other careers in the health professions that students might consider (e.g., emergency medical technician, genetic counselor, speech-language pathologist, nutritionist, nurse, vision rehabilitation therapist, etc.). An excellent source for descriptions and job prospects for dozens of health professions careers can be found at http://explorehealthcareers.org/en/home.
DEPARTMENTAL MEMBERS TO CONTACT FOR AREAS OF SPECIALIZATION
Dr. Elizabeth Bennett: Chair: Social
Dr. Nicholas Cavoti, General; experimental; business applications
Dr. Michael Crabtree: Clinical
Dr. Timothy Klitz: Experimental; sensation; cognition
Dr. Rebecca McDonald: Developmental
Professor Cathy Petchel: Counseling
Dr. Benjamin Seltzer: Industrial; human resources
Dr. Lynn Wilson: Physiological; neuroscience

RULES OF THUMB REGARDING ENTRANCE ABILITY FOR PARTICULAR COURSES
• PSY 101 must be taken before PSY 102.

• Students who transfer in an Introductory Psychology course from another college will typically be given credit for PSY 102 and will be expected to take PSY 101 at W&J.

• Student scoring a 5 on the Advanced Placement Test will receive credit for PSY 102 and will begin their study of psychology at W&J with PSY 101.

• PSY 101 and PSY 102 are prerequisites for all psychology courses numbered 200 and above, the only exceptions being Intersession courses where noted.

• MTH 125, the only course outside the psychology department required for the major, must be taken before or concurrently with PSY 215.

• All Psychology majors must take at least one 300-level course or non-laboratory 400-level course; these courses may be taken after 100- and 200-level prerequisites have been satisfied.

• NSC 210 can be counted toward the PSY major (unless a student has already completed PSY 285).

• PSY 215 and a 300-level course must be taken before any advanced psychology lab course: PSY 405, 406, 425, 427, 465, 475, 485, or 495.

• PSY 101, 215, and the advanced psychology lab course must be completed successfully at W&J in order to count toward the major or minor.

• Psychology majors planning to study abroad: Please note that, in order to complete the psychology major, a student must successfully complete PSY 215: Experimental Psychology by the second semester junior year if he/she plans to study abroad the fall semester of the senior year. A cumulative GPA of 2.5 is required to study abroad.
SAT scores are not a factor in advising students on psychology courses.

PSY majors minoring in Forensic Science can count no more than 3 courses from the Forensic Science minor toward their PSY major. PSY minors can count no more than 2 courses from the Forensic Science minor toward their PSY minor.

**IMPORTANT PIECES OF ADVICE**

- Take PSY 101 and PSY 102 as soon as possible since they are the key for entrance into all other psychology courses.

- Take Math 125 or BIO 245 early since statistics is a prerequisite for PSY 215, which in turn is a prerequisite for any advanced psychology lab; MTH 125 or BIO 245 may be taken concurrently with PSY 215; a grade of C- or better is required of MTH 125 or BIO 245.

- The department recommends strongly that students declare their major in psychology no later than the end of the sophomore year. Those students who declare the major later run the risk of being unable to gain entrance into courses required for the major.

- When planning to study abroad, students must keep in mind that PSY 215 and the advanced psychology lab must be successfully completed at W&J.

- As part of the major, students will complete one BEHAVIORAL (PSY 102) and one SCIENCE (capstone- advanced laboratory) course.

- The department recommends that students take ENG 200 and COM 220.

**MOST COMMON MISTAKES MADE IN ADVISING STUDENTS**

- Advising to enroll in PSY 102 without having taken PSY 101 first

- Thinking they can take PSY 101 over the summer somewhere other than at W&J

- Advising to take an advanced psychology course without having both PSY 101 and PSY 102

- Advising students that PSY 115 will count toward the major or minor in psychology
The Russian Area Studies concentration is a 4 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.

FACULTY CONTACTS
Dr. Han Ye, Non-major Languages Director
Dr. Susan Vdovichenko, Modern Languages

REQUIREMENTS
- 2 Russian language courses from RUS 105, RUS 106, RUS 207, RUS 208, RUS 309, or RUS 310
- HIS 231
- Additional non-language course from LAN 255, RUS 257/ENG 345, GER 235, or RUS 500 (independent study).
FACULTY CONTACTS
Dr. Danielle Ficco: Gender; race and ethnicity
Dr. Colleen Hyden: Methodology; family; and religion
Dr. John F. Krol, Chair: Sociological Theory; deviant behavior; sport; law; and work
Dr. Stuart Miller: Juvenile justice; criminology; social psychology; environment; and inequality

RECOMMENDED FOUR-YEAR PROGRAM
FRESHMAN YEAR:
Fall Term (1 course) 
SOC 101
Spring Term (2)
SOC 101, SOC 200,
SOC 201, SOC 200-level

SOPHOMORE YEAR:
Fall Term (1)
SOC 301, SOC 200-level
Spring Term (2)
MTH 125, SOC 201
SOC 200/300-level

JUNIOR YEAR:
Fall Term (1)
SOC 314
Spring Term (1)
SOC 300-level

SENIOR YEAR:
Fall Term (1)
SOC 300-level
Spring Term (1)
SOC 495

NOTE
All core courses required for the major, except SOC 101 and MTH 125, must be taken at Washington & Jefferson College. The seven core courses are: SOC 101, SOC 200, SOC 201, SOC301, SOC 314, MTH 125, and SOC 495. The Department encourages students to study abroad and works with them to find comparable courses for SOC 201, SOC 301, and SOC 314 at schools where the College has arranged such study programs.

RULES OF THUMB REGARDING ENTRANCE ABILITY FOR PARTICULAR COURSES
• SOC 200: Research and Writing should be taken as soon as SOC 101 is completed by all those interested in a Sociology major or minor.

• SOC 101 or a 200-level sociology course is needed before taking a 300-level course.
IMPORTANT PIECES OF ADVICE

- It is important to develop both knowledge and skills to get the most from your studies in sociology, so be sure to cultivate good writing, statistical, computing, and language skills.

- It is important to go beyond the everyday classroom with internships and/or independent studies.

- SOC 101: Introduction to Sociology, SOC 200: Research and Writing, and SOC 314: Research Methods, must be taken before SOC 495: Senior Seminar.

- SOC 201: The Sociological Tradition, SOC 301: Contemporary Social Theory, and MTH 125: Probability and Statistics should be completed before taking SOC 495: Senior Seminar.

- The Department offers major and minor courses during fall and spring terms and will cycle through all sociology courses every two years. Core courses will be offered at least once each year. Students often take more than the minimum ten required courses.

MOST COMMON MISTAKES MADE IN ADVISING STUDENTS

- “There are no jobs for Sociology majors; it won’t prepare you for a career.” Or, “All sociology prepares you for is social work.” In fact, sociology is strong preparation for a number of careers; only a small percentage of Sociology majors enter social work. Our majors have been members of the Peace Corps, taught English in Japan, been judges, worked in research compiling and analyzing data on children and criminals, worked for the International Monetary Fund, the World Bank, the Securities and Exchange Commission, and the World Health Organization. Majors and minors have used Magellan Grants to study archaeology in Egypt, green energy in Bulgaria, and life in the Caribbean. Sociology majors from W&J have pursued successful careers in law, business, medicine, public health, public administration, the military, hospital administration, finance, journalism, investment, brokering, funeral directing, communications, teaching, law enforcement and corrections, social service, and the National Football League.

- “Sociology is not relevant to your major in __________” As you can tell from the above, sociology has important connections to many different fields. Sociology helps unravel the social structure of professional activity and organization in virtually all fields.