Juniata College Catalog 2026-2027

August 24, 2026 - August 22, 2027

Catalog provisions are not to be regarded as an irrevocable contract between the student and Juniata College. While every attempt has been made to ensure correct information, the College reserves the right to change any provisions or requirements when deemed appropriate.

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The College

Mission

Juniata's mission is to provide an engaging personalized educational experience empowering our students to develop the skills, knowledge and values that lead to a fulfilling life of service and ethical leadership in the global community.

Profile

BRIEF HISTORY

Juniata is an independent, co-educational college of liberal arts and sciences, founded in 1876 by members of the Church of the Brethren to prepare individuals “for the useful occupations of life.”

Juniata’s first classes were held on April 17, 1876, in a cramped, second-story room over a local printing shop. Two women and one man were in attendance. Unlike the common model at the time, Juniata was co-educational from the beginning. In 1879, classes were moved to Founders Hall (completely restored in 2009) on the present Juniata campus in Huntingdon. The town is a county seat of 7,000 and lies in the scenic Central Pennsylvania mountains, mid-way between Interstate 80 and the Pennsylvania Turnpike.

The Juniata community now has over 50 buildings on over 800 acres, including the 316-acre Baker-Henry Nature Preserve, and Sparks Farm. In addition, the Raystown Field Station, located on Raystown Lake encompassing a complete watershed, consists of 365 acres for exclusive College use and a full 29,000 acres for additional research and study. The Field Station is leased from the Army Corps of Engineers and provides one of the most distinctive opportunities in environmental science in the nation.

Primarily residential (95% of degree-seeking undergraduate students live in campus housing), Juniata maintains an enrollment of approximately 1,300 students. Sixty-five percent are from Pennsylvania. Th student body represents 32 states and territories, and 27 foreign countries.

ACADEMIC PRINCIPLES

The success of students is directly linked to Juniata’s strong, dedicated faculty who consider teaching and advising their primary responsibilities.

The College supports a flexible, “value-centered” curriculum, wherein students may design their own Programs of Emphasis, which often transcend traditional majors. Programs of Emphasis may be tailored to personal goals and needs, may lead to either a B.A. or B.S. degree, and may include courses from among 21 academic departments. Each student consults with two faculty advisors and may also seek counsel from Academic Resources, Career Services, and Counseling staff. Coursework takes place both on and off campus and includes varied experiences such as seminars, fieldwork, “on-the-job” internships, study abroad, independent study and research, and community engaged learning.

PRINCIPLES OF A LIBERAL ARTS LIFESTYLE

As a community, Juniata is dedicated to providing an academically rigorous and personally enriching liberal arts education. Students have a responsibility to expand and fulfill their lifestyles to embrace the opportunities that lead to well-rounded citizenship.

The Student Government of Juniata College, as servant of the students, approves the following principles of a liberal arts lifestyle, and believes that these principles serve as the vehicle to successful life experiences.

A Juniata student who fully engages in a liberal arts lifestyle:

- Recognizes the value of being a citizen of the world in an increasingly global and diverse community.
- Seeks opportunities to serve in activities that enrich communities and give back to humanity.
- Builds meaningful and lasting relationships with academic peers, faculty, staff, and future colleagues.
- Regards healthy lifestyle choices as the keystone to success.
- Embodies a spirit of sustainability through awareness of finite resources.
- Realizes that learning is a lifelong process encompassing many disciplines.
- Questions the assumptions and truths presented in life, as embodied in Juniata’s maxim “Veritas Liberat.”
- Understands that integrity and honesty in all of life’s pursuits are virtues unto themselves.
- Assumes responsibility for choices made.

Approved by Juniata College Student Government, April 14, 2006.

JUNIATA’S APPROACH TO STUDENT DEVELOPMENT

As a community that focuses on the whole person, Juniata recognizes the importance of both curricular and co-curricular aspects of student development. Juniata has bridged the traditional higher education dichotomy between academic affairs and student affairs through a strong

partnership between these two branches of the College, a structural move that integrates the student's college experience. Academic affairs and student services officers meet regularly to coordinate efforts to meet students' educational and social development needs.

COMMENDATIONS

Juniata's reputation for academic excellence consistently earns accolades from notable publications that examine the nation's colleges and universities. These measures employ divergent rubrics in their evaluations, yet praise the College's supportive, innovative, and academically rigorous methods, upholding Juniata as a model for the best that a liberal arts education can be.

We are recognized for our distinctive focus on experience and excellent outcomes as one of 44 colleges featured in Loren Pope's influential book, *Colleges That Change Lives*. Juniata students transcend what they think is possible, choosing the College for the strong community of people who partner with them in pursuing academic achievement, professional preparation, and personal growth.

Juniata earns recognition annually from *The Wall Street Journal*, *Forbes*, Princeton Review, *Money* magazine, and *U.S. News & World Report*, which places Juniata on its list of the top 100 national liberal arts colleges. Juniata earned a 2012 Senator Paul Simon Award for comprehensive internationalization on campus.

The College has earned recognition for its academic offerings, successes related to diversity and inclusion, and programs aimed at preventing interpersonal violence. Its commitment to access for students of limited means is evident in its membership in the American Talent Initiative, and its dedication to the value of a liberal arts education is reflected in its participation in the Pennsylvania Consortium on the Liberal Arts.

ACCESS AND OPPORTUNITY

Juniata's first class in 1876 had just three students, two of whom were women. In a time when most educational institutions were out of reach for women and people of color, Juniata held steadfast in its commitment to access, opportunity, and belonging throughout its existence. Juniata is dedicated to maintaining the sense of peace, cooperation, and service set forth by our Church of the Brethren founders. We are resolute in our work to improve cultural understanding domestically and internationally. Nearly one-third of our student body is composed of students from historically underrepresented domestic and international racial and ethnic backgrounds and Juniata was one of the first schools in the state of Pennsylvania to extend partner benefits to same-sex domestic partners. In 2005, Juniata opened the Unity House, which was a shared space for The Office of Access, Opportunity and Leadership Development and Campus Ministry. The Unity House is now used as a residence for students who want to get involved with the Office of Access, Opportunity, and Leadership Development. Campus Ministry and the meditation room are located in Oller Center.

Right to Know Policies

NON-DISCRIMINATION

Juniata is an independent, privately supported, coeducational institution committed to providing a liberal arts education to qualified students regardless of sex, religion, race, color, national origin, ancestry, marital status, sexual orientation or disability. College policies comply with the requirements of Title VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and all other applicable federal, state and local statutes, regulations and guidelines. A complete affirmative action policy is available in the Office of Human Resources.

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT OF 1974

The Family Educational Rights and Privacy Act (FERPA) provides college students with certain rights relative to access and release of records that are personally identifiable. Juniata College's policy and procedures relating to FERPA are outlined below.

Student Records

Records that can be reviewed by students are maintained by the Registrar, the Director of Career Services, the Dean of Students, the Director of Student Financial Planning, and the Controller.

Students have the right to inspect records listed above by asking for an appointment with the appropriate administrator. Records will be produced within a 45-day period, and students have the right to seek the correction of information they consider inaccurate.

Students have the right to copies of their records.

Personally identifiable information from these records will not be disclosed to a third party without written consent of the student with the exceptions listed below:

- To other Juniata College administrators and faculty with a legitimate educational need (including faculty advisors and coaches of intercollegiate athletes).
- To accrediting agencies, certain governmental agencies involved in educational research, legal officers presenting a subpoena, and in emergencies to protect the health and safety of the student or others.

Records of request and disclosure of student records will be maintained by the appropriate administrators. These records will indicate the name of the party making the request, any additional party to whom information may be re-disclosed, and the legitimate interest the party had in obtaining the information. These records are available to students.

According to FERPA students do not have the right to review the following documents:

- Confidential letters and statements of recommendation which were placed in a file before January 1, 1975.

- Letters of recommendation that students have waived their right to review.
- Personal notes of faculty members, counselors, and administrators which are written only for the use of the writer.
- Financial records and statements of parents.

Directory Information

Directory Information can include name (legal and chosen), home and local address, home and mobile phone number, email address, academic program, class level, co-curricular activities, dates of attendance, enrollment status, cumulative credit hours, degrees, honors and awards received, and College-sanctioned photographic imagery. College-sanctioned photographic imagery is defined as digital or photographically printed images captured and created by College-financed operations including but not limited to the Marketing Office, the Digital Media Studio, the Advancement Office, Student Life, and Public Safety. Juniata has determined that College-sanctioned photographic imagery is part of directory information and thus is covered by blanket permissions implied in the Juniata policies regarding directory information.

Juniata may use parent/guardian names to promote announcements of their student's activities.

Students may refuse to have the directory information listed above, or some of the categories, released to third parties by submitting a written request to the Registrar's Office.

Parental Notification

In the interest of promoting better communication regarding students' academic and personal development, parents of dependent students may opt to receive copies of all correspondences involving violations, charges, actions, awards and citations that are sent from the Dean of Students Office to respective students unless students prevent such disclosure (hard waiver). Revealing such information is permissible under section 4.1 Disclosure of Educational Record Information – 3i, which permits colleges to share educational records or components thereof without the written consent of the student to "parents of a student who have established that student's status as a dependent" (chapter 5.3).

The Registrar's Office will release grades provided there is a consent on file from the respective student. If students would like parents to receive grade reports for the semester, the student must request a Final Grade Report each time the final grades are to be sent to the parents. The Request for Final Grade Report form is available from the Registrar's Office.

The Bursar's Office will communicate with parents of dependent students about billing for course registration, room and board, and any incidental fees which are the responsibility of a registered Juniata College student. NOTE: By registering, students are obligated to pay tuition, fees, and other charges associated with the registration. Failure to meet these obligations by scheduled due dates may result in additional costs associated with collection efforts including

late fees, collection agency commissions, court costs, and other collection costs that might be incurred.

ACCREDITATION

Juniata College is accredited by the Middle States Commission on Higher Education (MSCHE), 3624 Market Street, 2nd Floor West, Philadelphia, PA 19104, 267-284-5000. The Commission on Higher Education is recognized by the U.S. Secretary of Education to conduct accreditation and pre-accreditation activities for institutions of higher education in the region. MSCHE is also recognized by the Council on Higher Education Accreditation (CHEA) to accredit degree-granting institutions which offer one or more post-secondary educational programs of at least one academic year in length.

The Juniata College Education Department is authorized by Pennsylvania's Department of Education to offer teacher certification programs. The College is authorized by the Pennsylvania State Board of Nursing to offer the Bachelor of Science in Nursing. The College is also certified by the American Chemical Society and the Council on Social Work Education. The College is also accredited by the International Accreditation Council for Business Education. The College is a member of the American Talent Initiative, the Association of American Colleges and Universities, the Council on Undergraduate Research, EDUCAUSE, the Association of Independent Colleges and Universities of Pennsylvania, and the Council of Independent Colleges, as well as other state and national professional associations.

The Campus

Main Campus

INSTRUCTIONAL FACILITIES

Carnegie Hall was built in 1907 as the College Library, then renovated in 1998 to create the Juniata College Museum of Art. Its original features include a Beaux Arts exterior and interior rotunda with a stained-glass skylight. The building houses the JCMA collection of over 1200 art works available in an accessible storage space, as well as two galleries that accommodate 4-6 exhibitions annually drawn from the collection, on loan to the Museum, or through collaborations with living artists (including students). Carnegie Hall also includes classroom space and a photography darkroom.

The arts are headquartered in the Kepple IMA building and Swigart Hall. Swigart Hall (1950), a white brick building on the northern side of the campus was purchased for the College with a gift from W. Emmert Swigart ’06. It contains faculty offices, practice rooms, teaching studios, and classrooms, one of which is home to a Yamaha Piano Laboratory. Kepple houses the faculty, workspaces, classrooms, and labs that support both studio arts and integrated media arts.

The William J. von Liebig Center for Science (2002) is a state-of-the-art facility for biology and chemistry. The facility has strengthened Juniata’s position as a premier college for undergraduate teaching and learning in biology and chemistry. For research of all kinds, von Liebig is among the best equipped undergraduate science centers in the nation. Housed there are a cell culture facility, a shared facility for light (fluorescence, laser scanning confocal and DIC) and electron microscopy, and a fully equipped laboratory for molecular biology research. Other instruments include an atomic force microscope, a gas chromatograph-mass spectrometer, a nuclear magnetic resonance spectrophotometer, a liquid chromatograph-mass spectrometer, and an x-ray diffractometer.

In the Brumbaugh Academic Center (1968, renovated 2017), three separate wings house seven academic departments and the Information Technology Services (ITS) Help Desk. The Dale Hall wing houses business/accounting/economics, communication, information technology and computer science, and mathematics; with physics, earth and environmental science, and geology located in the two corresponding wings. The circular hub of BAC includes Alumni Hall, a 400-seat auditorium, and one smaller lecture hall.

In addition, the Raystown Field Station and the Davis and Robinson residence lodges on nearby Raystown Lake provide one of the country’s most distinctive opportunities for environmental studies. The Raystown Field Station, encompassing a complete watershed, consists of 365 acres for exclusive College use and a full 29,000 acres for additional research and study.

Good Hall (1967, renovated 2017) houses the psychology and social work departments and contains more than 30 classrooms and several instructional laboratories.

English, history, and world languages are currently headquartered in Founders Hall (1878, restored 2009). The building houses faculty offices, seminar rooms, and classrooms.

GENERAL FACILITIES

Founders Hall is the oldest building on campus. Constructed in 1879 (restored 2009) on land donated by local citizens, it houses the academic departments of History and English and multiple administrative offices, including the President's Office, Provost's Office, Dean of Students Office, Registrar's Office, Career Development & Alumni Engagement, General Counsel, Institutional Effectiveness, and the College Advancement Offices.

The William E. Swigart, Jr. Enrollment Center (1975, remodeled in 2017) is located on 18th Street between Good Hall and the Brumbaugh Academic Center. The College Marketing Office is located in Pennington House, adjacent to Brumbaugh Academic Center. On Mifflin Street behind Good Hall, the Office of Community Engagement is located in the Harold B. Brumbaugh House. The Finance and Business Affairs Offices, including the Bursar's Office, and the Human Resources Office are located in Dana Hall for Administrative Services. The Print Shop is housed in Stone House on Moore Street.

The Oller Center for Peace and International Programs (1999) houses the Center for International Education (CIE), the academic department of Peace and Conflict Studies, and the Campus Ministries Office. The CIE coordinates Juniata's international efforts, supports the College's international student population, maintains an active study abroad program, assists faculty in curricular and programmatic planning, and enhances the international environment of the College.

The Ellis Hall (1969, upgrades 2017) is noted for its stately entrance columns, and honors Juniata's sixth and seventh presidents, Charles C. and Calvert N. Ellis. A focal point of student life, Ellis Hall houses the dining hall, including the 680-seat Baker Refectory (renovated 2019), Eagles Landing (renovated 2019), the Ballroom, the 24x7 Transfer and Commuter Student Lounge, and additional student lounge areas. The Public Safety Office, Office of Campus Life, The Perch campus store, the Campus Post Office, and offices for Student Government, Juniata Activities Board (JAB), and other student organizations are all located in Ellis.

Statton Learning Commons is Juniata College's hub for learning, collaboration, and academic success. Bringing together Library Services, the Office of Digital Learning, Academic Resources, and the Writing and Speech Center, Statton provides students with the people, spaces, and resources they need to succeed both inside and outside the classroom.

Designed to support a variety of learning styles, Statton offers technology-rich study spaces, collaborative work areas, quiet study, a café, classrooms, a Creation Lab, recording studio, meditation room, Archives & Special Collections, and a wide range of reservable spaces for individual and group work.

Students have access to more than 80,000 print books, 700,000 eBooks, and 160 research databases, along with research assistance, information literacy instruction, course reserves, interlibrary loan, and technology lending. Academic coaching, peer tutoring, and writing and speech support help students build confidence, strengthen essential academic skills, and achieve their goals. The Office of Digital Learning provides workshops, consultations, and multimedia production spaces that help students develop the digital fluency needed for today's academic and professional environments.

Throughout the year, Statton hosts workshops, presentations, and campus events that encourage curiosity, creativity, and lifelong learning. Whether students are conducting research, preparing for an exam, creating a podcast, practicing a presentation, or simply finding a place to study, Statton Learning Commons is a welcoming space where every student can learn, connect, and thrive.

For cultural events, the Halbritter Center for the Performing Arts includes both the Rosenberger Auditorium and the Suzanne von Liebig Theatre. The Rosenberger Auditorium (built in 1940, remodeled in 2024) seats 765 and is used by most visiting speakers and performers as well as for student and faculty productions. The auditorium's acoustics are rated highly, and large proscenium stage is equipped with modern lighting and sound equipment. The Suzanne von Liebig Theatre (2006) is a 200-seat, free form state-of-the-art flexible theatre. The Center also includes a dance/movement theatre studio, costume shop, scene shop, classroom, green room, dressing rooms, and gallery space in its lobby.

The Kennedy Sports + Recreation Center (1983) provides Juniata students with modern recreational facilities. A hub for out-of-classroom activity, the Kennedy Center contains two gymnasiums; a six-lane, 25-meter swimming pool; the F. Samuel Brumbaugh and Martha A. Brumbaugh Strength and Fitness Center (1998, renovated 2024); and three expanded locker rooms. Dedicated to those from the College who served in World War I and II, the Memorial Gym (1951) serves as the center for varsity sports activity with a seating capacity of 1,200 for basketball and volleyball.

Outdoor facilities include the Raffensperger Tennis Courts, several intramural and practice fields, Langdon/Goodale Field (baseball), the Juniata softball field, Goodman Field (2012) at Knox Stadium (football and field hockey), the Jefford F. Oller Track (2009), and the Winton Hill soccer fields.

RESIDENCE HALLS

Juniata is a vibrant residential campus where over 1,200 students live in a variety of housing options—from traditional residence halls to independent houses and apartment-style accommodations. Living on campus offers students an immersive college experience, with easy access to campus events, activities, and a supportive community.

Among the residence halls is The Cloister, a striking example of Pennsylvania German architecture located at the heart of campus. It reflects the rich heritage of the College and

serves as a beloved landmark. East Houses, a complex of four contemporary buildings, offers apartment-style living for students seeking more independence. Nathan Hall offers single rooms.

Housing options include traditional double, triple, and quad rooms; suite-style and single rooms; and apartment-style units in residentials halls and nearby college-owned buildings.

Each residence hall is staffed with both student and professional personnel who provide support, plan events, and help foster a welcoming environment.

College-owned apartment buildings within walking distance of campus include Mission House (18th & Washington Streets), Pink Palace (Moore Street) and Hess Apartments (14th & Washington Streets)

Additional houses have been added to the residential portfolio, some of which host themed living and learning communities that enrich the academic and social experience.

INSTRUCTIONAL TECHNOLOGY

Juniata embraces effective use of technology to strengthen the teaching-learning experience. High speed networks provide connectivity in residence halls, classrooms, laboratories, and offices. All students are automatically given accounts to access technology resources. These accounts provide access to the Internet, e-mail, course materials, Microsoft 365, library resources, and many other technology systems, such as the college portal, 'the Arch', which provides students with quick and easy access to online college services such as grades, course registration, event scheduling, campus calendars and job listings.

All classrooms are fitted with presentation equipment (projection, large screen LCD, or interactive display), laptop connections, and sound systems. All students are required to have access to a laptop.

Public computing areas also provide students with access to Windows and Mac computers that are installed with both standard and specialized software.

A description of individual facilities follows:

Brumbaugh Academic Center - including Dale Hall

- Geographic Information Systems Lab (B201) is a classroom/laboratory equipped with Windows-based machines and software focused on teaching and research using GIS tools. While this lab is primarily used for GIS, the equipment is available for general student use outside of normal class hours.
- Information Technology Lab (C102) - This room is primarily used as an Information Technology and Computer Science classroom. Its Windows-based workstations are available for general student use outside of scheduled class times.

- The Technology Solutions Center (C107) is home to the IT Help Desk, which provides technology support to the campus community. The TSC is responsible for the planning, deployment, and maintenance of all classroom technology across campus. In addition, sound systems and other media for special events are maintained and coordinated through the TSC. Laptops can be checked out for temporary use by students, faculty, and staff.
- Innovations for Industry (I4I) Lab (C229) is an area set aside for students specifically in the Innovations for Industry course sequence to gather in their respective teams to work on their client projects. Dedicated hardware, software, and presentation equipment is housed in this center specifically for the I4I course.
- Physics Labs (P200 and P201) – These labs are equipped with windows-based machines and software focused on teaching and research in Physics. These labs are used almost exclusively by Physics students but are available to all students outside of scheduled class times.

Good Hall

- Psychology Lab (G107) houses Windows-based computers focused on teaching and research in Psychology. This room is dedicated to the Psychology students and faculty based on the nature of their research.

Kepple IMSA Building

- Kepple 113 and 114 house Mac based computers with digital media software and tools that mainly support IMSA students but are available to all students outside of scheduled class time. Additional editing suites are available within the building to allow students a more dedicated space to work with sound and video editing.

Statton Learning Commons

- The Statton Learning Commons Digital Learning Lab has iMac workstations with standard software applications and can also be used for media production. The Office of Digital Learning is the hub of digital video production for classroom projects. Rental equipment including laptops, cameras, and more are also available for faculty, staff, and students to check out.
- Statton also includes Wi-Fi and laptops that can be checked out to access the library's online resources of over 160 databases, 1,000 periodicals, and over 700,000 e-books. The building includes two high-speed printers and numerous study rooms and areas with whiteboards, tables, and large screens for group work with laptops.
- Classrooms in Statton are outfitted with interactive displays.

The Raystown Field Station

The Raystown Field Station is a 365-acre reserve operated as a center for environmental research and education. Located only 20 miles south of campus, the Station provides students with access to 29,000 acres of Army Corps of Engineers property, including the 8,300-acre Raystown Lake, the largest manmade lake within Pennsylvania. The Station has modern facilities and accommodations including Shuster Hall (2003) that features state-of-the-art green architecture. Sustainable design was a central factor in the construction of the LEED-certified lakefront Shuster Hall. Two lakeside lodges (2006) adjacent to Shuster Hall provide modern housing complete with internet access, laundry facilities, and exercise equipment. The Station also provides rustic accommodations at Grove Farm, a remodeled 18th century log farmhouse. Four semester-long residential immersion programs are currently offered on a rotating basis in the fall and spring. These cover themes such as Wildlife Conservation, Restoration Ecology, Resource Management, and Aquatic Ecology.

Students participating in the immersion semesters take all of their courses at the Field Station and live in the lodges on the lakeshore. Field work is integrated with course work and local projects as key educational approaches to this unique experience. Students in environmental science and studies, biology, chemistry, fisheries, wildlife conservation, environmental education, geology and other natural sciences will find this semester to be central to their learning experience. Each semester also provides an additional week-long immersion experience at a partner field station. Past trips have included visits to the Northern Appalachians, Chincoteague Island, and South Carolina.

Other features of the Station include full internet connectivity, a trail system, a series of ground water monitoring wells, a private harbor, a boat dock with a fleet of boats including two pontoon boats and a SeaArk designed for aquatic research. The station also offers canoes and kayaks for student recreation and a dedicated recreation area by the water. Two 4wd vehicles and a variety of field sampling gear, including microscopes, telemetry units, trail cameras, data loggers, laptop computers and portable water analysis labs, equip students and faculty for a wide range of field research activities. The Station hosts course activities for several academic departments, sponsors numerous faculty and student research projects and internships, provides community environmental education opportunities, and is the home to the annual Juniata maple syrup program.

Baker-Henry Nature Preserve and Elizabeth Evans Baker Peace Chapel

In addition to the main campus and other buildings, Juniata owns the 316-acre Baker-Henry Nature Preserve on which is located the Elizabeth Evans Baker Peace Chapel. Architect and artist Maya Lin, who also designed the Vietnam Veterans' Memorial in Washington, D.C., and the Civil Rights Memorial in Montgomery, Alabama, designed the Baker Peace Chapel. The Chapel is a place for both private meditation and public celebration. A grassy path ties two hilltops

together: on one, a single, polished granite circle set in a bed of moss; on the other, a forty-foot circle of rough-cut English granite.

Sill Business Center

The Bob & Eileen Sill Business Center has 10,000 square feet of rental space, including various types and sizes, for community members. This versatile facility is designed to support and foster local entrepreneurship and small business growth. It houses Broad Top Medical who partners with Juniata College to offer health services to students.

Sparks Farm

In 2015, Jack and Carolyn Sparks generously donated this property to Juniata College with the hope that Juniata would use the land as an educational and outreach center. As lifelong educators, Jack and Carolyn know the value of hands-on education, and the need to preserve and share special places like the “farm”. With nearly 450 acres of land that ranges from rolling fields to steep shale barrens and large tracts of forested land, Sparks Farm offers many opportunities to visitors, whether it be for research, learning about the outdoors or just relaxing. The property has miles of hiking trails, disc golf, two miles of river frontage, and more.

Organization of the College

Board of Trustees

OFFICERS

Glaeser, Carl D. ’77, Chair
Sunderland, Daniel K. ‘88, Vice Chair
McMinn, Robert S. II ‘79, Treasurer
Scaccia, Jeffrey P., Assistant Treasurer
Moyer, Bruce L., '74, Secretary
Guise, Katie, Assistant Secretary

MEMBERS

Terms are listed in parentheses.

Troha, James A., B.A., M.A., Ph.D. – Ex-Officio (2013-)

Anagnos, Jeremy P. ’27, Chief Investment Officer, CBRE Investment Management, Radnor, PA (2025)

Bair, Christopher E. ’92, B.S., M.B.A., Managing Director, Deloitte, Denver, CO (2017 – 2020, 2022)

Biddle, Eric D. ’82, B.S., Retired, Senior Assistant Director of Admissions, Penn State University, State College, PA (2024)

Clarke, Cynthia Gilbert ’76, B.S., Retired, Director of Enrollment Data Management, Juniata College, Huntingdon, PA (2022)

Close, Nicole C. ’92, B.S., M.S., Ph.D., President and Principal Biostatistician, Empiristat, Mount Airy, MD (2013-2016, 2020)

Cooper, Clayton A. ’13, B.S., M.D., Physician, Geisinger Lewistown Hospital, Lewiston, PA (2025)

Craft, Jeffrey P. ’00, B.S., Managing Partner, Deloitte, Sewickley, PA (2023)

Cunnion III, Robert J.,’77, B.S., M.S., Retired, Senior Vice President of Human Resources and Corporate Officer, The Ryland Group, Inc. (2026)

Deike, Randall C. ’88, B.S., M.S., Ph.D., President and CEO, Deike and Associates, LLC, New Bern, North Carolina (2018)

Fahey, David J. ’81, Principal and Managing Director, Avison Young, Wayne, PA (2015)

Giles, Lisa M. ‘80, B.S., Managing Director and CEO, Giles & Associates Consultancy, Inc., Lake Bluff, IL & Johns Island, SC (2026)

Glaeser, Carl D. ’77, B.S., Managing Partner, Palladian Capital Partners, New York, NY (2005)

Gunn, Marissa L. ‘05, B.A., J.D., Administrative Law Judge, District of Columbia Office of Administrative Hearings, Washington, D.C. (2026)

Habecker, Gail M. ’76, B.A., E.B. A.C., Retired, Director of Research, StoneRidge PMG Advisors, LLC, Conshohocken, PA (2003-2006, 2007)

Hadley, Joy L. ’84, B.S., M.P.A., Senior Executive Service Member, Federal Housing Administration, Alexandria, VA (2020)

Haines, Stephanie L. ’92, B.S., J.D., United States District Judge, U.S. District Court for the Western District of Pennsylvania, Johnstown, PA (2024)

Holsinger, Steven J. ’76, B.A., J.D., General Counsel and Secretary, A.S.K. Foods, Inc., Palmyra, PA (1999-2000, 2001)

Jensen, Eric C. ’77, B.S., Ph.D., Retired, Senior Research Fellow, Eli Lilly & Company, Indianapolis, IN (2009)

Jones, Angela M. ’01, B.S., J.D., Vice President, Netflix, Los Angeles, CA (2025)

Jones, Bruce A. ’75, B.S., M.S., Retired, Director, PBF Logistics, Parsippany, NJ (2024)

Klag, Michael J. ’74, B.S., M.D., M.P.H. Dean Emeritus, Johns Hopkins University, Baltimore, MD (2019)

Mason, Fred C. ’73, B.S., M.B.A., Retired, Director, Product Source Planning, Caterpillar, Inc., Greenland, NH (2008)

McMinn, Robert S. II ’79, B.A., J.D., Executive Vice President, General Counsel, Corporate Secretary, Kish Bank, Huntingdon, PA (2011-2014, 2022)

Metz, James M. ’89, B.S., M.D., Chair, Department of Radiation Oncology, Perelman Center for Advanced Medicine, Philadelphia, PA (2025)

Moyer, Bruce L. ’74, B.A., J.D., President, Government/Legal Affairs, Moyer Group, Takoma Park, MD (2011)

Nathan, Howard M. ’75, B.S., M.P.H., Retired, Executive Director, Gift of Life Transplant Foundation, Philadelphia, PA (2022)

Nichols, Judodine P. B.S., M.S., Ph.D., Former Chief Sustainability Officer and Vice President of Innovation, Radius Recycling, Inc., Portland, OR (2024)

Ostrowski, Colleen E. ’95, B.S., M.B.A., Senior Vice President & Treasurer, Visa, Foster City, CA (2021)

Pletcher, Carol A. ’66, B.S., M.S., Ph.D., President, Pletcher Inc., Solana Beach, CA (2016-2022)

Rys, William A. ’96, B.A., J.D., Managing Director, Head of Federal Government Affairs, Citi, Washington, D.C. (2014-2017, 2022)

Schadler, Jill ’91, B.S., M.B.A., Head of United States Human Resources, Adaptimmune, LLC, Philadelphia, PA (2024)

Shah, Parisha P. ’01, B.S., Ph.D., Senior Research Investigator, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA (2016-2019, 2020)

Sterl, Brad, ’76, B.A., M.B.A., President, Brad Sterl & Associates, Inc., Wilton Manors, FL (2023)

Sunderland, Daniel K. ’88, B.S., President, Sun Motor Cars, Inc., Mechanicsburg, PA (2018)

Thompson, Christopher J. ’87, B.S., Retired, Independent Consultant, Media, PA (2021)

Valko, George P. ’75 B.S., M.D., Retired, Vice Chair, Department of Family & Community Medicine, Thomas Jefferson University, Collegeville, PA (2013)

Wagner, David G. ’85, B.S., Retired, Chief Human Resources Officer and Vice President, Coherent, Saxonburg, PA (2024)

Wulczyn, Friedhelm ’75, B.S., M.S., Ph.D., Senior Research Fellow, University of Chicago, Chicago, IL (2018)

BOARD OF TRUSTEES EMERITI

Date in parentheses is that of appointment to the board.

Andrews, David P. ’74, B.A., J.D., Hollidaysburg, PA (1992-1995, 1999)

Baker, Anne C., B.A., B.M., M.A., J.D., L.H.D., New York, NY (1987)

Beachley, David C. ’77, B.S., Hagerstown, MD (2005-2007, 2008)

Brinker, John A. ’69, B.S., M.B.A., Santa Barbara, CA (2000)

Chang-Lo, Patrick, B.S., M.S., San Rafael, CA (2011)

Cramer, John McN. ’63, B.A., LL.B., Harrisburg, PA (1982)

Davis, Bruce ’65, B.A., M.F.A., Los Angeles, CA (2012)

Donahue, Jayne K., ’75, B.S., Southborough, MA (2013)

Endres, Richard J., B.S., Huntingdon, PA (2017)

Gibbel, Henry H. ’57, B.S., Lititz, PA (1973-76, 1978)

Gray, Jodie E. Monger ’88, B.S., M.S., Ph.D., Stevensville, MD (2002)

Green, Madeleine F., B.A., M.A., Ph.D., Chevy Chase, MD (2003)

Halbritter, Barry J. ’65, B.S., Duncansville, PA (1987)

Hayes, William P. B.A., State College, PA (2004)

Hess, Kenneth E. ’75, B.S., Ephrata, PA (2000)

Hevrony, Nathan B.S., New York, NY (2013)

Hill, John, T., B.A., Pennington, NJ (2012)

Hogan, David J. ’61., B.A., New York, NY (2005)

Kindig, Karl K. ’72, B.S., J.D., Abingdon, VA (1994)

McDowell, Robert N. ’67, B.A., M.A., Huntingdon, PA (1999)

McKonly, Linda W. ’73, B.S., Hanover, PA (2005)

Michel, Harriet R. ’65, B.A., L.H.D., New York, NY (1989)

Patterson, Wayne C. ’60, B.S., M.S., Ph.D., Parker, CO (1986)

Paulhamus, Richard E. ’70, B.S. M.S., Bonita Springs, FL (1997-2000, 2002)

Paullin, Carol Ellis ’71, B.S., M.Ed., Palm Coast, FL (2011)

Pollock, Gayle W. ’68, B.S., Lewisburg, PA (2005)

Raymond, Gary A., B.A., D.P.M., Hollidaysburg, PA (2013)

Schwemmlein, Christoph ’84, B.S. M.B.A., Nuremberg, Germany (2001)

Statton, Timothy D. ’72, B.S., Sonoma, CA (1998)

Strueber, Michael M., B.S., M.A., M.Ed., Hollidaysburg, PA (2003)

Taylor, Maurice C., ’72, B.A., M.A., Ph.D., J.D., Baltimore, MD (1993)

Wagoner, Robert E. ’53, B.S., Palmyra, PA (1982)

White, Mary M. ’73, B.S., M.S., Englewood, CO (1999)

Wise, Charles W. III, A.B., M.B.A., L.H.D., Pittsburgh, PA (2000)

Faculty

The date in parentheses is that of first appointment to Juniata faculty.

Ames, William M., Associate Professor of Chemistry (2013). B.A., Macalester College, 2004; Ph.D., The University of Iowa, 2009.

Andrew, Bradley B., Professor of Economics and International Studies (2001). Beachley Distinguished Teaching Award, 2023. B.S., Framingham State College, 1989; M.A., Ph. D., University of Connecticut, 1992, 2002.

Baran, Peter, Professor of Chemistry (2004). B.S., M.S., Ph.D., Slovak Technical University, 1985, 1986, 1992.

Beaky, Matthew M., Professor of Physics (2011). Beachley Distinguished Academic Service Award, 2024. B.S., Worcester Polytechnic Institute, 1989; M.S., Ph.D., The Ohio State University, 1992, 1996.

Bellwoar, Hannah, Professor of English (2011). B.A., Temple University, 2000; M.S., Ph.D., University of Illinois, 2004, 2011.

Bennett, Randy L., Professor of Biology (2000). Eagle Advising Award, 2025. B.A., Western Maryland College, 1985; Ph.D., University of Wisconsin-Madison, 1993.

Benson Burns, Bethany, Professor of Art (2007). Henry H.’57 and Joan R. Gibbel Award for Teaching Excellence, 2013. B.F.A., University of Massachusetts, 2000; M.F.A., Southern Illinois University, 2007.

Blackman, Taylor, Instructor of ESS (2025). B.S., Pennsylvania State University; M.S, Virginia Tech; Ph.D., Pennsylvania State University (TBD).

Blades, William, Assistant Professor of Physics and Engineering Physics (2023). B.Sc., Virginia Commonwealth University, 2014; M.Sc., Virginia Commonwealth University, 2016; Ph.D., University of Virginia, 2021.

Borgardt, James D., William W. Woolford Professor of Physics (1998). The Henry H. ‘57 and Joan R. Gibbel Award for Teaching Excellence, 2003; Beachley Distinguished Teaching Award, 2012; Beachley Distinguished Academic Service Award, 2022. B.S., University of California, Santa Barbara, 1989; M.S., Ph.D., University of Arizona, 1995, 1997.

Boryk, Robert, Instructor of Art (2015). B.A., Kent State University, 2010; M.F.A., Southern Illinois University, 2014.

Bowen, Lauren L., Provost and Professor of Politics (2015). B.A., The Ohio State University, 1984; Ph.D., University of Kentucky, 1992.

Bukowski, John F., Professor of Mathematics and Elma Stine Heckler Professor of Music (1997). Beachley Distinguished Academic Service Award, 2013; Beachley Distinguished Teaching Award, 2018. B.S., Carnegie Mellon University, 1991; Sc.M., Ph.D., Brown University, 1992, 1997.

Burns, Jonathan, Instructor of International Studies (2010). B.S., The Pennsylvania State University, 1993; M.S., Colorado State University, 1996; Ph.D., Temple University, 2006.

Camenga, Kristin A., Professor of Mathematics (2016). The Henry H. '57 and Joan R. Gibbel Award for Teaching Excellence, 2020. B.A., St. Olaf College, 1997; M.S., Ph.D., Cornell University, 2005, 2006.

Cockett, Lynn S., Professor of Communication (2001). Henry H. '57 and Joan R. Gibbel Award for Teaching Excellence, 2006. B.S., Messiah College, 1989; M.L.S., Ph.D., Rutgers-The State University of New Jersey, 1993, 2000.

Cotrell, Shannon, Instructor of College Writing (2007). B.A. St. Mary's University, 1991; M.A., University of Texas at San Antonio, 2000.

Crum, John D., Assistant Professor of Criminal Justice (2022). B.A., Penn State Altoona, 2013; M.A., Indiana University Pennsylvania, 2015; Ph.D., The Pennsylvania State University, 2022.

DellAntonio, Jennifer, Assistant Professor & Director of Nursing (2025). D.Ed., M.S.N., R.N., C.N.E.

Deshong-Cook, Lee Ann, Assistant Professor of Social Work (2020). B.S., The Pennsylvania State University, 1993; M.S.S., Bryn Mawr College School of Social Work and Social Research, 2000; Licensed Master Social Worker (New York and Pennsylvania), 2000.

Dickey, William M., Associate Professor of English (2008). B.A., Shippensburg University, 2000; M.A., University of New Orleans, 2003; Ph.D., Indiana University of Pennsylvania, 2010.

Dong, Yufeng, Assistant Professor of Engineering (2025). B.E., Dalian University of Technology, 2014; M.S., University of Southern California, 2016; Ph.D., University of California (UCLA), 2023.

Dunwoody, Philip T., Professor of Psychology (2004). The Henry H. '57 and Joan R. Gibbel Award for Teaching Excellence, 2010. B.A., Richard Stockton College of New Jersey, 1994; M.S., Ph.D., University of Georgia, 1998, 2000.

Escuadro, Henry, Professor of Mathematics (2007). B.S., M.S., Ateneo de Manila University, 1994, 1997; Ph.D. Western Michigan University, 2006.

Fenske, Allison, Assistant Professor of Engineering (2026). M.S., Pennsylvania State University, 2024; Ph.D., Pennsylvania State University, 2026.

Fletcher, Alison, W. Newton and Hazel A. Long Professor of History (2007). The Henry H. '57 and Joan R. Gibbel Award for Teaching Excellence, 2011; Beachley Award for Distinguished Teaching, 2024. Bryn Mawr College; M.A., Ph.D., The Johns Hopkins University, 1995, 2003.

Frazier-Yoder, Amy, Sedgley Thornbury Professor of Spanish (2009). The Henry H. '57 and Joan R. Gibbel Award for Teaching Excellence, 2017. B.A., Washington & Lee University, 1999; M.A., Ph.D., University of Virginia, 2004, 2010.

Gallagher, Sinéad M., Associate Professor of Accounting (2018). M.Sc, Dublin City University, Dublin, Ireland, 2001; Ph.D., Queens University Belfast, Belfast, United Kingdom, 2017. Certified Public Accountant (US), 2018. Chartered Accountant (Ireland), 1994.

Grajewski, Tracy L. Stough, Assistant Professor of Accounting, Business, and Economics (2023). B.A., Juniata College, 1986; M.B.A., Syracuse University, 1992.

Grant, Christopher J., Associate Professor of Biology (2019). B.S., M.S., Ph.D., The Pennsylvania State University, 2003, 2005, 2012.

Harper, Kerry, Assistant Professor of Social Work and Director of Field Education (2022). B.S., Juniata College, 2004; M.S.W., Temple University, 2007; Licensed Clinical Social Worker.

Heckel, Andrew, Assistant Professor of Exercise Science (2025). **B.S., Florida State University, 2019; M.S., Syracuse University, 2021; Ph.D., Syracuse University, 2025.**

Helsel-Ickes, Amber J., Assistant Professor of Chemistry (2010). B.A., Juniata College, 2004; Ph.D., The State University of New York at Buffalo, 2009.

Hildebrand, Katie, Associate Professor of Education (2021). Henry H.'57 and Joan R. Gibbel Award for Teaching Excellence, 2024. B.A., Juniata College, 2001; Ph.D., The Pennsylvania State University, 2008.

Holsing, Mark, Assistant Professor of Accounting, Business, and Economics (2022). B.S., Penn State University, 2012; M.S., Slippery Rock University, 2019.

Hosler, Jay, David K. Goodman ’74 Professor of Biology (2000). The Henry H. ‘57 and Joan R. Gibbel Award for Teaching Excellence, 2005; Beachley Distinguished Teaching Award, 2016. B.A., DePauw University, 1989; Ph.D., University of Notre Dame, 1995.

Jaquess, Kyle, Associate Professor of Psychology and Neuroscience (2020). B.A., University of California, Riverside, 2009; M.A., California State University, San Bernardino, 2012; Ph.D. University of Maryland, College Park, 2018.

Johanesen, Katharine, Associate Professor of Geology (2015). The Henry H. ‘57 and Joan R. Gibbel Award for Teaching Excellence, 2021. B.S., Beloit College, 2006; Ph.D., University of Southern California, 2011.

Johnson, Dennis L., George “Fritz” Blechschmidt ’54 Professor of Environmental Science (1999). B.A., Lock Haven University, 1989; B.S., M.S., Ph.D., The Pennsylvania State University, 1989, 1992, 1995.

Keeney, Jill B., Charles A. Dana Professor of Biology (1994). Junior Faculty Award, 1999; Beachley Distinguished Academic Service Award, 2011; Beachley Award for Distinguished Teaching, 2025. B.S., The Pennsylvania State University, 1985; Ph.D., Washington University, 1990.

Kruse, Gerald W., John ’54 and Irene “58 Dale Professor of IT, Math and Computer Science (1999). Beachley Distinguished Academic Service Award, 2017. B.S., University of Illinois, 1985; Sc.M., Ph.D., Brown University, 1993, 1997.

Lamendella, Regina, George ’75 and Cynthia ’76 Valko Professor of Biology (2012). The Henry H. ‘57 and Joan R. Gibbel Award for Teaching Excellence, 2016; B.S., Lafayette College, 2004; M.S., Ph.D., University of Cincinnati, College of Engineering, 2006, 2009.

Latten, James E., Professor of Music (2002). B.S., Mansfield University, 1986; M.S., Indiana University, 1990; Ph.D., The Pennsylvania State University, 2002.

Lauzon, Robb, Assistant Professor of Communication (2023). B.A., Oakland University, 2009; M.A., Wayne State University, 2013; Ph.D. Rensselaer Polytechnic Institute, 2018.

Lesser, Lauren, Instructor of Business (2026). B.A., Juniata College, 2016; M.Ed., Kent State University, 2019; Ed.D., The University of Kansas, 2027 (TBD).

Lindley, Eric, Assistant Professor of Education (2026).

Maleska, Monika, Professor of Art (2006). B.A., University of Manitoba, Canada, 1998; M.F.A, University of Texas at San Antonio, 2001.

Mansberger, Elizabeth P., Assistant Professor of Biology (2014). Eagle Advising Award, 2023. B.S., University of Maine, 1985; Ph.D., The Pennsylvania State University, 1992.

Mathur, Amy E., Associate Professor of English (2006). B.A., Juniata College, 1996; M.S., Carnegie Mellon University, 1997; Ph.D., University of Arizona, 2009.

Mathur, Ryan D., Professor of Geology (2001). Beachley Distinguished Scholarship Award, 2026. B.A., Juniata College, 1996; Ph.D., University of Arizona, 2000.

Matter, John M., Associate Professor of Biology (1997). B.A., University of Missouri, 1983; M.S., Saint Louis University, 1987; Ph.D., University of Florida, 1995.

McKellop, J. Mark, Professor of Psychology (2002). Henry H.’57 and Joan R. Gibbel Award for Teaching Excellence, 2008; Beachley Distinguished Teaching Award, 2026. B.A., The Ohio State University, 1994; M.A., Ph.D., University of Cincinnati, 2000.

Merovich, George T., Jr., Professor of Environmental Science & Studies (2015). B.S., The University of Arizona, 1994; M.S., Frostburg State University, 1998; Ph.D., West Virginia University, 2007.

Miller, Melanie, Assistant Professor of Nursing (2026).

Miller, Robert J., Rosenberger Professor of Christian and Religious Studies (2003). Beachley Distinguished Academic Service Award, 2020; B.A., St. John’s College, 1975; M.A., University of California, Santa Barbara, 1978; M.A., Ph.D., Claremont Graduate School, 1980, 1986.

Mong, Mary Anne, Assistant Professor of Education (2024). B.S., M.Ed., Ph.D.,The Pennsylvania State University, 2011.

Muth, Norris Z., Professor of Biology (2007). B.A., Brown University, 1997; M.S., Yale School of Forestry and Environmental Studies, 1999; Ph.D., State University of New York, Stony Brook, 2006.

Neville, Elainea, Instructor of Computer Science and Information Technology (2021). B.S., Juniata College, 2016; M.S., Boston University, 2019.

Page, Amanda M., Professor of English (2013). B.A., Wellesley College, 2003; M.A., Ph.D., University of North Carolina at Chapel Hill, 2005, 2011.

Pearson, Mark D., Assistant Professor of Physics and Physics Engineering (2003). B.Sc., Imperial College of Science, Technology & Medicine, 1992; Ph.D., Imperial College of Science, Technology & Medicine, 1996.

Pelkey, Neil W., Professor of Environmental Science and Studies (2002). B.A., University of California; Ph.D., University of California.

Peruso, Dominick F., Associate Provost and Harry M. Metz and Catherine Miller Metz Professor of Accounting, Business, and Economics (1999). Beachley Award for Distinguished Academic Service, 2016. B.S., Saint Francis College, 1995; M.Ed., Ph.D., The Pennsylvania State University, 1999; 2012; C.P.A. in Pennsylvania.

Plane, Dennis L., Professor of Politics (2004). Beachley Distinguished Academic Service Award, 2026. B.A., Rollins College, 1993; Ph.D., University of Texas at Austin, 2002.

Poole, Territa L., Associate Professor of Psychology (2017). The Henry H. '57 and Joan R. Gibbel Award for Teaching Excellence, 2022. B.S., M.S., M.A., Ph.D., 2017, University of West Alabama.

Powell, Matthew G., Professor of Geology (2007). Henry H.'57 and Joan R. Gibbel Award for Teaching Excellence, 2013; Eagle Advising Award, 2026. B.S., M.S., Virginia Polytechnic Institute and State University, 1998, 2000; Ph.D., The Johns Hopkins University, 2005.

Prill, Susan E., Professor of Religion (2006). B.A., Bard College, 1996; M.A., University of Michigan, 2000; Ph.D., University of London, 2005.

Quallen, Eric, Assistant Professor of Environmental Science and Studies (2026). B.S., University of Wyoming, 2018; Ph.D., University of Wyoming, 2023.

Quan, Shuang, Assistant Professor of Education (2024). Henry H.'57 and Joan R. Gibbel Award for Teaching Excellence, 2026. Ph.D., Fordham University, 2024.

Ramakrishnan, Uma, Professor of Environmental Science and Studies (2005). B.Sc., Bangalore University; M.S., Pondicherry University; Ph.D., University of California, Davis, 1999.

Ridge, Charlotte, Assistant Professor of Politics (2024).

Roberts, Wade, I. Harvey Brumbaugh Professor of Philosophy (2008). B.A., Birmingham-Southern College, 1996; M.A., Ph.D., Duquesne University, 1997, 2007.

Shen, Li, Associate Professor of Marketing (2017). The Henry H. '57 and Joan R. Gibbel Award for Teaching Excellence, 2023. B.A., Central South University, 2005; M.S., Ph.D., Southern New Hampshire University, 2010, 2016.

Stenson, Catherine A., Professor of Mathematics (2000). Sc.B., Brown University, 1994; M.S., Cornell University, 1997; Ph.D., Cornell University, 2000.

Stout, Jonathan, Assistant Professor of Education (2025).

Streb, Jennifer L., Professor of Art History (2008), The Henry H. '57 and Joan R. Gibbel Award for Teaching Excellence, 2014. B.A., Juniata College, 1993; M.A., Ph.D., The Pennsylvania State University, 1997, 2004.

Stylianides, Georgios A., Director of Exercise Science and Kinesiology and Associate Professor of Exercise Science (2023). B.A., University of Tennessee, 1987; M.S., Illinois State University, 1997; Ph.D., University of Toledo, 1998.

Thurston-Griswold, Henry, Professor of Spanish (1992). Beachley Distinguished Teaching Award, 2003. B.A., State University of New York at Cortland, 1981; M.A., Ph.D., The University of Texas at Austin, 1983, 1989.

Tuten, Belle S., Charles A. Dana Professor of History (1997). Beachley Junior Faculty Award, 2001; Beachley Award for Distinguished Teaching, 2013. B.A., College of Charleston, 1991; M.A., Ph.D., Emory University, 1994, 1997.

Tuten, James H., Dr. Charles R. and Shirley A. Knox Professor of History (2006). The Henry H. '57 and Joan R. Gibbel Award for Teaching Excellence, 2009; Beachley Distinguished Teaching Award 2019; Eagle Advising Award, 2022. B.A. College of Charleston,

1990; M.A., Wake Forest University, 1992; Ph.D., Emory University, 2006.

Unger, John B., Associate Professor of Chemistry (2012). B.S., Hobart College; Ph.D., University of California Santa Barbara.

Utterback, Neal, Associate Professor of Theatre Arts (2012). B.S., Coastal Caroline University, 1998; MFA, University of Florida, 2001; Ph.D., Indiana University, 2012.

Warrick, Tia, Director of Public Health and Assistant Professor of Biology (2023). B.S., York College of Pennsylvania, 2017; DHSc., University of Bridgeport, 2021; Certified Clinical Research Associate, 2022; Association for Clinical Research Professionals in Project Management, 2023.

Westcott, Kathryn M., Charles A. Dana Professor of Psychology, (2003). Beachley Award for Distinguished Academic Service, 2014. B.A., The Ohio State University, 1994; M.Ed., Ph.D., University of Cincinnati, 1998, 2001.

White, James D., William I. and Zella B. Book Professor of Physics (1998). The Henry H. '57 and Joan R. Gibbel Award for Teaching Excellence, 2004; Beachley Award for Distinguished Teaching, 2014. B.A., Carleton College, 1985; M.Ed., Ph.D., The Pennsylvania State University, 1993, 1994.

Widman, David R., Professor of Psychology (1999). B.S., University of Wyoming, 1987; Ph.D., University of Albany, State University of New York, 1992.

Williams, Ursula, Professor of Chemistry (2014). The Henry H. '57 and Joan R. Gibbel Award for Teaching Excellence, 2019. B.S., Union College, 2009; Ph.D., University of Pennsylvania, 2014.

Worley, Sarah C., Professor of Communication (2004). Beachley Distinguished Academic Service Award, 2025. B.A., Juniata College, 2000; M.A., The University of Colorado, 2003., Ph.D. The Pennsylvania State University, 2016.

Wright, John J., Associate Professor of Computer Science (2002). B.S., Juniata College, 1993; M.S., Villanova University, 2000.

Xie, Lisa, Assistant Professor of Accounting (2026).

Yelnosky, Robert, Instructor of Accounting, Business, and Economics (2025). B.S., Juniata College.

Yohn, Sharon, Assistant Professor of Chemistry and Biochemistry (2010). B.S., Juniata College, 1999; Ph.D., Michigan State University, 2004.

York, Nick, Assistant Professor of Biochemistry (2026). B.S., The University of Texas at Arlington, 2015; Ph.D., The University of Alabama, 2021.

FACULTY EMERITI

Date in Parentheses is that of emeritus status.

Barlow, J. Jackson, Charles A. Dana Professor of Politics, Emeritus (2024). Junior Faculty Award, 1995; Beachley Distinguished Academic Service Award, 2006. B.A., Carleton College, 1976; M.A., Ph.D., Claremont Graduate School, 1981, 1984.

Biddle, Kathleen R., Martin G. Brumbaugh Professor of Education, Emerita (2024). The Henry H. '57 and Joan R. Gibbel Award for Teaching Excellence, 2010; Beachley Distinguished Academic Service Award, 2019. B.S., Indiana University of Pennsylvania, 1976., Ph.D., Tufts University, 1996.

Boyle, Michael D.P., William J. von Liebig Chair in Biomedical Sciences, Emeritus (2012). Beachley Award for Distinguished Teaching, 2010. B.S., University of Glasgow, Scotland, 1971; Ph.D., Chester Beatty Research Institute, England, 1974.

Braxton, Donald M., J. Omar Good Professor of Religion (2026). B.A., Wittenberg University, 1986; A.M., Ph.D., The University of Chicago, 1987, 1993.

Burkhardt, Marlene E., Professor of Accounting, Business and Economics, Emerita (2019). B.A., Wilkes College, 1980; M.S.W., University of Maryland, 1982; Ph.D., The Pennsylvania State University, 1990.

Cherry, Elizabeth A. Ellis, Professor of History, Emerita (1998). Beachley Distinguished Academic Service Award, 1990; Beachley Distinguished Teaching Award, 1998. A.B., College of Wooster, 1956; A.M., Columbia University, 1957.

Cook-Huffman, Celia B., W. Clay and Kathryn H. Burkholder Professor of Conflict Resolution, Emerita (2020). Junior Faculty Award, 1996; Beachley Distinguished Academic Service Award, 2010. B.A.,

Manchester College, 1986; M.A., University of Notre Dame, 1988; Ph.D., Maxwell School of Citizenship and Public Affairs of Syracuse University, 1993.

DeHaas, Sarah J., Martin G. Brumbaugh Professor of Education, Emerita (2021). B.S., Slippery Rock State College 1980. M.Ed, Providence College 1988; Ph.D., Pennsylvania State University 1991.

DeVries, Cynthia Merriwether, Professor of Sociology, Emerita (2021). Beachley Distinguished Academic Service Award, 2018. B.S., M.S., Ph.D. The Pennsylvania State University, 1990, 1994, 2000.

Donaldson, James R., Professor of Accounting, Business and Economics, Emeritus (2012). Beachley Distinguished Academic Service Award, 1998. B.S., Juniata College, 1967; M.A., University of Akron, 1972; M.B.A., Syracuse University, 1984.

Drews, David R., Charles A. Dana Professor of Psychology, Emeritus (2004). Beachley Distinguished Teaching Award, 1989. B.A., Dennison University, 1965; M.S., Ph.D., University of Delaware, 1968, 1970.

Duey, William E., Assistant Professor of Economics and Business Administration and Registrar, Emeritus (2000). B.S., The Pennsylvania State University, 1959; MBA, George Washington University, 1970; M.A., Shippensburg University, 1986.

Esch, Linda Sue, Charles A. Dana Professor of Mathematics, Emerita (2007). Lindback Distinguished Teaching Award, 1979; Beachley Distinguished Teaching Award, 1990. B.S., Juniata College, 1968; A.M., Ph.D., Boston University, 1970, 1974.

Fala, Grace M., Professor of Communication (1992). Junior Faculty Award (2021). A.A., Bucks County Community College, 1978; B.A., M.A., West Chester University, 1986, 1988; Ph.D., The Pennsylvania State University, 1993.

Fisher, Tom L., Professor of Chemistry, Emeritus (2013). Beachley Distinguished Academic Service Award, 2002. B.S., Old Dominion University, 1964; PhD., Iowa State University, 1970.

Glazier, Douglas S., Professor of Biology, Emeritus (2024). Beachley Distinguished Academic Service Award, 2000. B.A., Oakland University, 1973; Ph.D., Cornell University, 1979.

Glosenger, Fay I., Dilling Professor of Early Childhood Education, Emerita (2018). Lindback Distinguished Teaching Award, 1988; Beachley Distinguished Academic Service Award, 1997. B.S., M.Ed., Ph.D., The Pennsylvania State University, 1971, 1977, 1984.

Goldstein, Peter M., John Downey Benedict Professor of English, Emeritus (2020). B.A., Harvard University, 1976; J.D., University of Southern California, 1979; Ph.D., University of California, Los Angeles, 1991.

Gustafson, Todd D., Professor of Biology, Emeritus (2007). Lindback Distinguished Teaching Award, 1981. B.A., Jacksonville University, 1971; M.S., Ph.D., University of Wisconsin, 1973, 1976.

Heller, Bernice Engman, Associate Professor of Spanish, Emerita (1997). A.B., College of Wooster, 1953; A.M., University of Kansas, 1955.

Heller, Max N., Associate Professor of Mathematics and Computer Science, Emeritus (1997). B.S., M.S., The Pennsylvania State University, 1958, 1976; M.A.T., Indiana University, 1967.

Henderson, Michael S., Associate Professor of French, Emeritus (2021). B.A., M.A., Arizona State University, 1982, 1984; Ph.D., University of California, Santa Barbara, 1991.

Hsiung, David C., Dr. Charles R. and Shirley A. Knox Professor of History (2026). Junior Faculty Award, 1995; Beachley Award for Distinguished Teaching, 2007. B.A., Yale University, 1983; M.A., Ph.D., The University of Michigan, 1985, 1991.

Jaeger, Klaus A.G., I. Harvey Brumbaugh Professor of German, Emeritus (2008). Beachley Distinguished Teaching Award, 1992. M.A., The Ohio State University, 1965; Ph.D., The Pennsylvania State University, 1989.

Jones, Kathleen M., Professor of Education (2026). B.S., M.S., Ph.D., The Pennsylvania State University, 1985, 1995, 2009.

Katz, Judith N., Associate Professor of English, Emerita (2014). Beachley Award for Distinguished Teaching, 2006. B.A., City College of New York, 1966; M.A., Ph.D., The Pennsylvania State University, 1968, 1972.

Kipphan, Klaus P., Charles A. Dana Professor of History, Emeritus (2003). Beachley Distinguished Teaching Award, 1974, 2001. A.B., Gymnasium Eberbach, Germany, 1959; A.M., Fairleigh Dickinson University, 1965; Ph.D., University of Heidelberg, 1969.

Kirchhof-Glazier, Debra A., Professor of Biology, Emerita (2017). Lindback Distinguished Teaching Award, 1987; Beachley Distinguished Academic Service Award, 1999. B.S., Lebanon Valley College, 1973; Ph.D., Cornell University, 1979.

Lakso, James J., Professor of Accounting, Business and Economics, Emeritus (2013). Beachley Distinguished Teaching Award, 1983; Beachley Distinguished Academic Service, 2005. B.A., Wittenberg University, 1967; M.A., Ph.D., University of Maryland, 1970, 1973.

Lewis, Janet R., Associate Professor of Philosophy, Emerita (2008). Sears-Roebuck Teaching Excellence and Campus Leadership Award, 1991; Beachley Award for Distinguished Teaching, 1999. B.A., Wilson College, 1964; M.A., Bryn Mawr College, 1968.

Masters, Henry G., Associate Professor of Psychology, Emeritus (1999). B.A., University of Rochester, 1958; M.A., Emory University, 1961; Ph.D., Kansas State University, 1968.

McBride, Alexander T., Professor of Art, Emeritus (2005). Beachley Distinguished Teaching Award, 2002. B.F.A., Rhode Island School of Design, 1962; M.F.A., Cornell University, 1964.

Mitchell, Donald J., Professor of Chemistry, Emeritus (2003). Beachley Distinguished Teaching Award, 1986; Beachley Distinguished Academic Service Award, 1991. B.S., Westminster College, 1960; Ph.D. Vanderbilt University, 1965.

Murray, M. Andrew, Elizabeth Evans Baker Professor of Religion and Peace and Conflict Studies and Director of the Baker Institute, Emeritus (2008). L.H.D. Bridgewater College, 1998. Beachley Distinguished Academic Service Award, 1991. B.A., Bridgewater College, 1964; M.Div., D.Min., Bethany Theological Seminary, 1968, 1980; L.H.D., Manchester College, 1993.

Mutti, Laurence J., Professor of Geology, Emeritus (2015). Lindback Distinguished Teaching Award, 1982; Beachley Distinguished Teaching Award, 1995. B.A., Beloit College, 1971; Ph.D., Harvard University, 1978.

Nagengast, Emil, Professor of Politics and International Studies (2026). Junior Faculty Award, 2000; Beachley Award for Distinguished Teaching, 2011. B.A., Middlebury College, 1984; M.A., University of Kansas, 1990; Ph.D., University of Pittsburgh, 1996.

Norris, Wilfred G., William I. and Zella B. Book Professor of Physics, Emeritus (1998). Beachley Distinguished Academic Service Award, 1993. B.S., Juniata College, 1954; Ph.D., Harvard University, 1963.

Ochiai, Ei-Ichiro, H. George Foster Chair of Chemistry, Emeritus (2005). B.S., M.S., Ph.D., University of Tokyo, 1959, 1961, 1964.

Park, Valerie G., Associate Professor of Education, Emeritus (2016). B.S., The Pennsylvania State University, 1979; M.Ed., Shippensburg State University, 1982; Ph.D., The Pennsylvania State University, 2005.

Radis, Susan T., Professor of Social Work and Sociology, Emerita (2020). B.S., The Pennsylvania State University, 1969; M.S.S., Bryn Mawr College, 1973.

Reed, Ruth E., Jacob H. and Rachel Brumbaugh Professor of Chemistry, Emeritus (2012). Beachley Distinguished Teaching Award, 1993. B.A., Winthrop College, 1968; Ph.D., Virginia Polytechnic Institute and State University, 1974.

Reilly, F. Robert, Charles A. Dana Professor of Social Work and Sociology, Emeritus (2012). Beachley Distinguished Teaching Award, 1991. B.A., Susquehanna University, 1971; M.S.W., Marywood College School of Social Work, 1974; A.C.S.W. member.

Reingold, I. David, H. George Foster Chair of Chair of Chemistry, Emeritus (2012). Lindback Distinguished Teaching Award, 1992; Beachley Distinguished Academic Service Award, 2001. A.B., Dartmouth College, 1971; Ph.D., University of Oregon, 1976.

Rhodes, Loren K., John and Irene Dale Professor of Information Technology, Emeritus (2021). B.S., M.S., Ph.D., The Pennsylvania State University, 1979, 1980, 1991.

Richardson, Kim M., Professor of Education, Emerita (1979). Lindback Distinguished Teaching Award, 1983; Beachley Distinguished Academic Service Award, 1996. B.A., Duke University, 1969; M.S., Old Dominion University, 1972; Ph.D., Temple University, 1981.

Roney, Deborah W., Assistant Professor of English, Emerita (2021). Beachley Distinguished Academic Service Award, 2021.

Roney, James N., I. Harvey Brumbaugh Professor of Russian, Emeritus (2021). B.A., Dartmouth College, 1973; M.A., Ph.D., The Ohio State University, 1975, 1981.

Rosell, Karen J., Professor of Art History, Emerita (2019). Lindback Distinguished Teaching Award, 1989; Beachley Distinguished Teaching Award, 1997. B.A., University of Richmond, 1980; M.A., Virginia Commonwealth University, 1982; Ph.D., Ohio University, 1986.

Rosenberger, Randy M., Professor of Economics and Business Administration (2026). B.A., Dickinson College, 1980; M.B.A., Cornell University, 1985; Ph.D., The Pennsylvania State University, 1999.

Russey, William E., Charles A. Dana Supported Professor of Chemistry, Emeritus (2001). Beachley Distinguished Teaching Award, 1975. B.A., Kalamazoo College, 1961; M.A., Ph.D., Harvard University, 1964, 1966.

Schettler, Paul D., Jr., Charles A. Dana Professor of Chemistry, Emeritus (2017). Beachley Distinguished Teaching Award, 1978; Beachley Distinguished Academic Service Award, 1995. B.S., University of Utah, 1958; Ph.D., Yale University, 1964.

Shelley, Russell K., Elma Stine Heckler Professor of Music, Emeritus (2025). Junior Faculty Award, 1997; Beachley Distinguished Teaching Award, 2020. B.S., B.S.M., Baptist Bible College, 1985; M.S., Mansfield University, 1986; Ph.D., The Pennsylvania State University, 1997.

Siems, Norman E., William W. Woolford Professorship in Physics, Emeritus (2011). Lindback Distinguished Teaching Award, 1984; Beachley Distinguished Teaching Award, 1994; Beachley Distinguished Academic Service, 2009. B.S., Rensselaer Polytechnic Institute, 1966; M.S., Johns Hopkins University, 1970; Ph.D., Cornell University, 1976.

Sowell, David L., Professor of History, Emeritus (2017). Junior Faculty Award, 1994; Beachley Distinguished Academic Service, 2007. A.B., Western Kentucky University, 1975; B.A., Grand Valley State Colleges, 1976; M.A., Ph.D., University of Florida, 1980,1986.

Sunderland, Benjamin B., Professor of Mathematics, Emeritus (2016). Beachley Distinguished Teaching Award, 2015. B.S., M.A., Ph.D., The Pennsylvania State University, 1970, 1975, 1982.

Thomas, William H., John and Irene Dale Professor of Information Technology and Computer Science (2026). Beachley Distinguished Teaching Award, 2017. B.S., Lock Haven University, 1983; M.S., Shippensburg University, 1990.

Troy, Jack G., Associate Professor of Art, Emeritus (2005). B.S., West Chester College, 1961; M.A., Kent State University, 1967.

Wagoner, Paula L., Associate Professor of Anthropology (2015). A.A., Sheridan College, 1988; A.B., Smith College, 1991; M.A., Ph.D., Indiana University, 1995, 1997.

Walker, Polly O., Associate Professor of Peace & Conflict Studies, Emerita (2021). B.S., New Mexico State University; 1975, M.A., New Mexico State University, 1983, Ph.D., University of Queensland, Australia, 2001.

Wampler, Dale L., Professor of Computer Science, Emeritus (1999). Beachley Distinguished Academic Service Award, 1981. A.B., Bridgewater College, 1957; Ph.D., University of Wisconsin, 1962.

Wang, Xinli, Professor of Philosophy, Emeritus (2021). Beachley Award for Distinguished Teaching, 2021. B.S., Changchun Institute of Geology, China 1982; M.A., Huazhong University, 1988; Ph.D., University of Connecticut, 1999.

Welliver, Daniel M., Professor of Sociology, Emeritus (2021). B.A., Juniata College, 1979; M.C.P., The Pennsylvania State University, 1990; Ph.D., Indiana University of Pennsylvania, 2011.

Woodrow, Thomas W., Martin G. Brumbaugh Professor of Education, Emeritus (1997). Beachley Distinguished Academic Service Award, 1992. B.S., Juniata College, 1958; M.Ed., Indiana University of Pennsylvania, 1966; D.Ed., The Pennsylvania State University, 1976.

Wright, Dale E., Professor of Psychology, Emeritus (2002). A.B., Chico State College, 1959; B.D., Berkeley Baptist Divinity School, 1962; Ph.D., University of Vermont, 1970.

Officers of The College

Troha, James A. President. B.A., M.A., Edinboro University, 1991, 1993; Ph.D., University of Kansas, 2005.

Bowen, Lauren. Provost. B.A., The Ohio State University, 1984; M.A., Ph.D., University of Kentucky, 1987, 1992.

Damschroder, Matthew. Vice President for Student Life and Dean of Students. B.A., Drake University, 1996; M.S., Ph.D., Illinois State University, 2007, 2015.

James, Derek. Dean of Access, Opportunity & Leadership Development. B.S., Grand Valley State University, 2006; M.S., The Pennsylvania State University, 2022.

Moran, Jason. Vice President for Enrollment & Marketing. B.A., Lycoming College, 2004; M.Ed., Bucknell University, 2014.

Scaccia, Jeffrey. Vice President for Finance and Business Affairs. B.S.B.A., University of Central Arkansas, 1995; M.B.A., The University of Arkansas at Little Rock, 2002. C.P.A., 1996.

Watt, James. Executive Vice President. B.S., Geneva College, 2010; M.H.R.D., Villanova University, 2013; Ph.D., Eastern University.

PRESIDENTS EMERITI

Date in parentheses is that of emeritus status.

Kepple, Jr., Thomas R., Emeritus (2013). B.A., Westminster College, 1970; M.B.A., Ed.D., Syracuse University, 1974, 1984; L.H.D., Elizabethtown College, 2011; L.H.D., Juniata College, 2013.

Neff, Robert W., President, Emeritus (1998). B.S., The Pennsylvania State University, 1958; B.D., M.A., Ph.D., Yale University, 1961, 1964, 1969; D.D., Juniata College, Manchester College, 1979; L.H.D., Bridgewater College, 1979.

JUNIATA COLLEGE 2026-2027 ACADEMIC CALENDAR

FALL SEMESTER 2026	
Monday, August 24	First Day of Fall 2026 Classes • ALL CLASSES ARE CANCELLED FROM 3:20-5:00 PM • New Students meet with their POE Advisors at 3:20 PM • Opening Convocation at 4:15 PM
August 24-30	Fall Semester 2026 Drop/Add Period
Friday, September 11	Deadline for instructors to submit grades for Spring 2026 incompletes
October 17-20	Fall Break – NO CLASSES
Wednesday, October 21	Advising Period begins
Monday, November 2	Registration for Spring 2027 classes opens for Seniors, Master's
Wednesday, November 4	Registration for Spring 2027 classes opens for Juniors
Monday, November 9	Registration for Spring 2027 classes opens for Sophomores
Thursday, November 12	Registration for Spring 2027 classes opens for Freshmen
November 21-29	Thanksgiving Break – NO CLASSES
Friday, December 11	Last Day of Fall 2026 Classes • 12:00 noon - Deadline to withdraw from Fall 2026 classes *(unless earlier deadline is specified on course syllabus)* • 12:00 noon - Deadline to declare Pass/No Pass for Fall 2026 courses
Saturday, December 12	Reading Day – NO CLASSES OR EXAMS
December 13-17	Fall 2026 Final Examinations *(No exams on Sunday morning)*
Monday, December 21	Deadline for instructors to submit Fall 2026 grades
SPRING SEMESTER 2027	
Tuesday, January 19	First Day of Spring 2027 Classes
January 19-25	Spring Semester 2027 Drop/Add Period
Friday, February 5	Deadline for instructors to submit grades for Fall 2026 incompletes
Wednesday, February 17	Nest Day – NO CLASSES
Friday, March 5	Deadline for Sophomores *(second-year students)* to submit POE forms
March 6-14	Spring Break – NO CLASSES
Monday, March 15	Advising Period begins
Monday, March 29	Registration for Fall 2027 classes opens for Seniors, Juniors, Master's
Thursday, April 1	Registration for Fall 2027 classes opens for Sophomores
Tuesday, April 6	Registration for Fall 2027 classes opens for Freshmen
Thursday, April 22	Liberal Arts Symposium *(regular class schedule replaced by LAS events)*
Friday, May 7	Last Day of Spring 2027 Classes • 12:00 noon - Deadline to withdraw from Spring 2027 classes *(unless earlier deadline is specified on course syllabus)* • 12:00 noon - Deadline to declare Pass/No Pass for Spring 2027 courses • 3:00 PM Spring Awards Convocation - ALL CLASSES ARE CANCELLED FROM 2:20-5:00 PM
Saturday, May 8	Reading Day – NO CLASSES OR EXAMS
May 9-13	Spring 2027 Final Examinations *(No exams on Sunday morning)*
Friday, May 14	Graduation Event: Baccalaureate Service

Saturday, May 15	Graduation Event: Commencement Ceremony
Wednesday, May 19	Deadline for instructors to submit Spring 2027 grades

Curriculum

Undergraduate Degrees and Certificates

Bachelor's Degree Graduation Requirements

BACHELOR'S DEGREE REQUIREMENTS

I. General Education
II. Program of Emphasis (POE)
III. Juniata Portfolio. All Juniata students will complete a portfolio of their work from their general education courses and from their POE capstone course. These requirements are described by the General Education Committee.
IV. A minimum of 120 credit hours with a grade of D- or better, including the courses described above.
V. A minimum cumulative grade point average of 2.0 on a 4.0 scale.
VI. Policies

General Education:

General Education Mission: General education engages students in common academic experiences that integrate learning across academic fields with distinctive ways of knowing and develop habits of mind necessary for reflective choices and effective action in fulfilling careers, engaged citizenship, and meaningful lives. All general education courses will make contributions to a student portfolio.

General Education Course Caps: At the discretion of the instructor and their department chair, General Education courses (except for the First-Year Experience) can have higher caps than mentioned elsewhere if the learning outcomes of the General Education designation can be preserved. With the additional approval of the Registrar, such courses may have lower caps to accommodate resource constraints (i.e., equipment, labs, etc.).

First-Year Experience

First-Year Experience courses are designed to help prepare them for success at Juniata through a three-course program:

1. First-Year Foundations

First-Year Foundations consists of a one-credit course in the first semester. This course provides students with the resources, skills, and information that will assist them in mastery of

academic and social life at Juniata College. Along with acquisition of skills and knowledge, students will reflect on their journey at the start of their Juniata career, helping to set the path for the rest of their academic career. Students will add reflection to their portfolio to document their academic progress at Juniata College. Through thoughtful reflection of the Principles of the Liberal Arts Lifestyle, the Attributes of a Juniata Graduate, and the College's Mission Statement, students will engage with their classmates as they lay the foundations of success. This course will connect students with a wide variety of campus resources.

Students will demonstrate their ability to meet the following learning outcomes:

- substantively reflect on their own values and future goals
- substantively reflect on their place within the local and global community
- describe how a holistic and intentional approach to life fosters our collective wellbeing

Students will "think about who you are." What does it mean for students to be in college, at this place, at this time? What are their goals for the future? Students will consider their values and goals both individually and in the context of a larger community: campus, Huntingdon, Pennsylvania, and the world. Additionally, students work to develop skills necessary for lifelong learning.

2. First-Year Composition

First-Year Composition is a four-credit course taken within the first year after a student's matriculation at Juniata College. It focuses on developing critical reading, writing, and analytical skills. Course themes will be chosen by individual instructors. All First-Year Composition courses are designated using an FYC course prefix.

First-Year Composition courses follow a process-oriented approach to college work and include peer review, individual conferences with the instructor, and revision cycles.

While course content will vary by instructor, there will be a two-week module related to diversity, organized around the instructor's selections from a common set of readings. These common readings will be determined by a learning community that includes some of those faculty members teaching the course.

The goals of the course are to introduce students to different types of reading and writing using varied models, genres, and forms (such as popular, scholarly, digital, and print). These courses build students' information literacy skills, rhetorical knowledge, critical thinking, and knowledge of appropriate genre and style conventions. First-Year Composition courses will focus on developing these skills to prepare students for future academic work.

First-Year Composition courses are capped at 18 students per section.
Students will demonstrate their ability to meet the following learning outcomes:

- write a persuasive argument using writing process strategies including invention, research, drafting, sharing with others, revising in response to reviews, and editing
- use a variety of credible secondary sources as evidence

3. First-Year Seminar

First-Year Seminar is a three-credit introduction-by-immersion course to college-level learning. Seminar topics are chosen by individual instructors. All First-Year Seminar courses are designated using an FYS course prefix.

The format is primarily seminar, with the option of some lecture in support of seminar discussions. The course content features challenging reading and explicitly embedded content concerning the liberal arts organized around instructor-selected readings that explore the role of the liberal arts, the course's relevance to them, and how the topic fosters reflection on identity and the common good. Students develop the intellectual skills of analyzing evidence and arguments by examining issues such as what counts as evidence, what makes arguments strong or weak, and common errors in reasoning.

First-Year Seminar courses are capped at 18 students per section.

Students will demonstrate their ability to meet the following learning outcomes:

- communicate effectively through written and oral expression
- demonstrate analytical thinking, critical questioning, and examination of evidence
- use a variety of credible primary and secondary sources as evidence

B. Ways of Knowing

The Ways of Knowing requirement teaches students to think critically and intellectually about the world, introduces students to different epistemological perspectives, and helps students realize the benefits of interdisciplinary inquiry and a liberal arts education.

Because dialogue, debate, and active learning are central to the liberal arts tradition, Ways of Knowing courses will emphasize seminar formats or active learning and are capped at 28 students (lower caps are permissible if requested by the instructor and approved by the department chair and the Provost's Office). Each Ways of Knowing requirement may be met through a single course or through a planned sequence of courses totaling at least three credits.

To foster an awareness of how Ways of Knowing are similar or different, each course or sequence of courses must include some comparison with another Way of Knowing. Faculty and students will consider how this second Way of Knowing supplements our understanding of the course topic. All Ways of Knowing courses are thus at least partially interdisciplinary.

Instructors of Ways of Knowing courses will identify with and demonstrate expertise appropriate to the Ways of Knowing category they are teaching.

The following policies govern Ways of Knowing courses:

1. A course may have only one Way of Knowing designation and may not carry any other general education designation.
2. Each Ways of Knowing course will have First Year Composition as a prerequisite or will have First Year Composition as a corequisite, determined by the instructor of the course.
3. Ways of Knowing courses may have no prerequisites other than First Year Composition except that in the case of a planned sequence of courses that satisfy the Ways of Knowing requirement, advanced courses in the sequence may require earlier courses in the sequence as prerequisites.
4. An individual student must satisfy the Ways of Knowing requirement with courses that each have a different course prefix.
5. Any Ways of Knowing course may simultaneously satisfy the Ways of Knowing general education requirement and count toward a Program of Emphasis, a Secondary Emphasis, or a Certificate.
6. Students must complete Ways of Knowing courses in at least two categories by the end of their second year.
7. With the approval of their advisors, students may waive one Ways of Knowing course that corresponds to a way of knowing inherent in their Program of Emphasis. Students whose Program of Emphasis embodies more than one way of knowing must choose which Ways of Knowing course to waive.

A course or planned sequence of courses totaling at least three credits is required in each of the following categories:

1. Creative Expression

Students explore their own potential to produce creative work through the study of the creative process and the practice of creativity and self-expression. Students will acquire the requisite skills to produce or perform a work of art and will explore the role of artistic expression in society.

Students will demonstrate their ability to meet the following learning outcomes:

- communicate effectively as appropriate for the audience (e.g., through written, oral, visual, or artistic expression)
- create or perform a work of art
- reflect on art as a vehicle for self-reflection, expression, or as a way of addressing issues that face society

2. Formal Reasoning

Students learn to think with rigor and precision through the study of formal systems and the application of deductive reasoning. Students will develop critical thinking and reasoning skills; use formal systems to identify, analyze, and solve problems; and critique current practices, structures, or claims through the application of formal reasoning.

Students will demonstrate their ability to meet the following learning outcomes:

- articulate the purpose of a formal language and give examples of its utility
- use deductive reasoning correctly
- represent a context in the formal language and manipulate the symbols of the language to analyze or draw conclusions

3. Humanistic Thought

Students learn to engage in theoretical, historical, or critical analysis of texts, art works, cultural artifacts, or cultural practices. Students develop the analytic techniques and interpretive skills to appreciate human experiences and their representations and will be prepared to ask fundamental questions of value, purpose, and meaning.

Students will demonstrate their ability to meet the following learning outcomes:

- communicate effectively through written and oral expression
- use analytic techniques and interpretive skills to appreciate human experiences and their representations
- ask and explore fundamental questions of value, purpose, and meaning

4. Social Inquiry

Students will learn to synthesize and apply qualitative or quantitative research to analyze human behavior, social organization, and the capacities that make society possible. Students will use reason and evidence to recognize and analyze distinctive forms of human behavior and social organization. Students will reflect on how social processes influence understanding of self, interactions with others, or access to power and resources. Students will explore ethical questions raised by social inquiry and consider its role in relevant public practices, policies, or popular media.

Students will demonstrate their ability to meet the following learning outcomes:

- communicate effectively through written and/or oral expression
- synthesize and apply qualitative or quantitative research to analyze human behavior, social organization, or social institutions
- consider the role of social inquiry in relevant public practices, policies, or popular media

5. Scientific Process

Students gain an understanding of what is known or can be known about the world through the study and practice of developing hypotheses, making observations, analyzing quantitative data, and drawing evidence-based conclusions. Students will explore ethical questions raised by scientific inquiry and consider its role in relevant public practices, policies, or popular media.

Students will demonstrate their ability to meet the following learning outcomes:

- manipulate and interpret quantitative information to draw appropriate conclusions
- engage in scientific reasoning through the use of theories, hypotheses, data, and conclusions
- consider the role of science in relevant public practices, policies, or popular media

C. Connections

Taken in the third or fourth year, Connections courses are team-taught by two or more instructors who bring different disciplinary perspectives to address a common topic. Students will learn to integrate knowledge and skills from multiple disciplinary perspectives to examine an issue through different ways of knowing. The Connections requirement may be met through a single course or through a planned sequence of courses totaling at least three credits.

The following policies govern Connections courses:

1. Students must complete Ways of Knowing courses in at least two categories before taking a Connections course.
2. A Connections course may not carry any other general education designation.
3. Any Connections course may simultaneously satisfy the Connections general education requirement and count toward a Program of Emphasis, a Secondary Emphasis, or a Certificate.

Connections courses are capped at 16 students per instructor.

Students will demonstrate their ability to meet the following learning outcomes:

- communicate effectively through written and oral expression
- address a challenging problem or question
- integrate knowledge and skills from different disciplinary approaches and ways of knowing to address a common topic

D. Self and the World

How should we engage with the world? What responsibilities do we have to our local and global communities? Self and the World courses foster the capacities necessary for wellbeing and responsible citizenship. These capacities include ethical reflection and a sense of purpose, knowledge of how diversity shapes the American experience, and knowledge about global challenges and cultural diversity. Together, these courses encourage us to engage with human

diversity, contemplate questions about a just society, and consider the conditions that foster individual and collective wellbeing.

Self and the World course designations can be applied to any course in which one of the major course goals is to address a Self and World category. That is, Self and World courses need not focus exclusively on a given Self and the World category but must include this content as one of the major course goals and the focus of a portfolio contribution. Self and the World instructors will demonstrate expertise in their Self and the World category.

Because dialogue, debate, and active learning are central to the liberal arts tradition, Self and the World courses will emphasize seminar formats or active learning or projects involving collaboration with community partners. Self and the World courses are capped at 28 students (lower caps are permissible if requested by instructor and approved by the department chair and the Provost's Office). Self and the World courses should strive to involve students in activities and reciprocal partnerships that extend outside of the classroom as they are designed to promote engagement with the world.

The following policies govern Self and the World courses:

1. A course may have only one Self and the World designation and may not carry any other general education designation.
2. Each Self and the World course, except foreign language courses, will have First Year Composition as a prerequisite or will have First Year Composition as a corequisite, determined by the instructor of the course.
3. Other than foreign language and local engagement courses, Self and the World courses may have no prerequisites other than First Year Composition.

Students will complete each of the following requirements: U.S. Experience, Ethical Responsibility, Global Engagement, and Local Engagement.

1. U.S. Experience

In what ways are U.S. experiences shaped by intersectional characteristics such as race, gender, and socioeconomic status? U.S. Experience courses focus on understanding the current or historical experiences of different groups within the U.S. (identified by, for example, gender, race, ethnicity, sexual orientation, geographic origin, immigration status, age, ability, or religion). Classes will address intersectionality, which refers to how identity-based systems of oppression and privilege overlap, connect, and influence one another. Students will critically examine systems such as racism and colonialism and their use of power, privilege, oppression, marginalization, and structural inequity and how these systems are challenged by cultural resilience and resistance. Coverage of such issues outside the U.S., such as through comparative methods, is optional.

In order to create a holding environment for difficult conversations and discourse, instructors of these courses are required to be engaged in sustained diversity training.

Students who complete this course will demonstrate their ability to meet the following learning outcomes:

- critically describe and respectfully discuss dimensions of diversity and intersectionality within U.S. social, cultural, political, or historical contexts
- critically examine lived experiences of participation in, and resistance and resilience to, systems of power, privilege, oppression, marginalization, and structural inequity within the U.S.

2. Ethical Responsibility

What do we owe ourselves, our neighbors, and the world? Ethical Responsibility courses foster students' senses of empathy and social and ethical responsibility. Students will learn to engage in ethical reasoning and take the perspectives of different participants in situations requiring ethical judgment. Students will assess their own ethical values, explore the social contexts of problems, recognize and understand ethical issues in different settings and traditions, and consider ramifications of alternative actions.

The Ethical Responsibility requirement may be met through a single course or through a planned sequence of courses totaling at least three credits.

Students will demonstrate their ability to meet the following learning outcomes:

- communicate effectively as appropriate for the audience (e.g., through written, oral, visual, or artistic expression)
- engage in ethical reasoning using different ethical traditions or perspectives

3. Global Engagement

What challenges do we face as an increasingly diverse and interconnected world? How are our cultural values similar or different? Global Engagement courses help students develop the knowledge and skills they need to engage effectively with and adapt to a changing world.

Students will demonstrate their ability to meet the following learning outcomes:

- articulate and contrast the values, beliefs, or practices of different cultures
- acquire skills (e.g. language, cultural humility) to effectively communicate and interact with other cultures and culturally diverse groups

To fulfill the Global Engagement requirement, students must complete at least two courses totaling at least six credits with a Global Engagement designation. Semester- or year-long study

abroad at a Juniata-approved site fulfills this requirement. Courses with a Global Engagement designation may be in one of three categories:

- **World Language Study.** These courses focus on communication in a world language.
- **Short-Term Study Abroad.** These courses focus on a study abroad experience, a portion of which includes a pre-departure component and a portion of which must be completed after study abroad to promote reflection on the learning experience. The study abroad experience must be linked to a Juniata course that together with the travel portion totals at least three credits.
- **Human Cultures & Challenges.** These courses focus on a people and culture outside of the U.S. or a global challenge.

4. Local Engagement

What challenges do we face in our local communities, the places where we live out most of our lives with people of diverse lived experiences and varieties of perspectives? How are our values similar or different from those of our local neighbors? What are our opportunities to be agents of ethical change in meeting the needs of the people we live within our local communities? Local Engagement experiences help students develop the knowledge and skills they need to engage effectively with the local communities they will inhabit throughout their lives. Local engagement options address specific learning outcomes designed to help students contribute their knowledge and skills to their local communities through meaningful engagement.

Students will demonstrate their ability to meet the following learning outcomes:

- work collaboratively in local cultural settings
- engage in citizenship through respectful interactions
- articulate how local engagement fosters individual and collective wellbeing

To fulfill the Local Engagement requirement, students must complete a Local Engagement course of at least one credit that includes at least 15 hours of approved community engagement. Students must include documentation of the community engagement activity and reflection on the experience in their Juniata Portfolio. Because Local Engagement courses require some basic knowledge about community engagement and may require special knowledge or skills, additional prerequisites may be required at the instructor's discretion.

II. Program of Emphasis (POE)

All Juniata students will complete a Program of Emphasis (POE), including a POE Capstone. The Program of Emphasis (POE) is Juniata's unique approach to focused education in an academic area of a student's choosing. The POE is an opportunity for students to explore in depth a particular discipline (through a designated POE) or to craft an individualized plan to study an area (through an individualized POE).

A. Types of Programs of Emphasis

1. Designated

Designated POEs are designed by departments or programs and approved by the Department and Program Committee.

2. Individualized

Every student entering Juniata College has the opportunity to design their program of study. Students will be assisted in this effort by their advisors.

B. Program of Emphasis Requirements

1. Requirements for All Programs of Emphasis

a. All POEs must contain at least 36 credit hours and no more than 63 credit hours, except as otherwise authorized by the Faculty Handbook or as authorized by the Department and Program Committee for POEs that require external accreditation.
b. With advisors' help, students draft a POE goal statement and identify the appropriate classes.
c. All POEs must contain at least 18 credits at the 300- or 400-level.
d. No more than two courses in the POE can be research or independent study courses.
e. All courses which are required, including prerequisites, must be in the POE.
f. All POEs must include depth of knowledge in an academic field.
g. All POEs must include analytical and creative thinking, critical questioning, and examination of evidence.
h. All POEs must include oral and written communication.
i. All POEs must include critical reflection on ethics as appropriate to the discipline.
j. All POEs must include information and technological literacy as applied to the discipline.
k. All POEs will have a capstone suitable to their academic fields. The POE Capstone is further described below.

2. POE Capstone Requirement for All Programs of Emphasis

a. Description of the POE Capstone

Each POE must require a capstone experience to be completed as part of a student's final 30 credits. The Capstone must be at least one credit and is considered both part of the POE and part of the student's general education.

The POE capstone represents the summation of a student's Juniata experience as well as a bridge to their future goals. The capstone experience is an expression of the totality of a student's growth, development, and learning as an undergraduate. Capstones include

connections from the POE to general education and support some of the Institutional Learning Outcomes. Research projects, internships, creative works, independent learning, community-engaged learning, and other disciplinary and interdisciplinary experiences are suitable capstones. POEs may offer different capstone experiences for different students.

b. Capstone Portfolio Requirements

All capstone courses require two contributions to the student's Juniata portfolio. One contribution will demonstrate the student's analytic and/or creative thinking and depth of knowledge in an academic field. The second will demonstrate reflection on the totality of their Juniata experience.

c. Capstone Learning Outcomes

Students will demonstrate their ability to meet the following learning outcomes:

- think analytically and/or creatively
- express depth of knowledge in an academic field
- substantively reflect on how their Juniata experience has shaped their own values and future goals
- describe how a holistic and intentional approach to life fosters personal wellbeing

3. Additional Requirements for Designated Programs of Emphasis

A student may follow an already designed program of study selected from a list of approved POEs. Depending on the area of study, some of the programs are made up of fully prescribed courses while others contain a variety of options and electives. No student rationale is required.

These designated POEs will be designed by departments or groups of departments and presented to the Department and Program Committee with supporting rationale. The Department and Program Committee will be responsible for authorization of POEs which become part of the official list kept in the Registrar's Office. The Department and Program Committee will use the following criteria to determine acceptance or rejection of proposed designated POEs:

- Coherence of the program
- Evidence of study in-depth
- If interdisciplinary, relationship of the courses to a specific objective

Within the POE, a minimum of ten courses will be prescribed, either by a department or a group of departments according to one of three rules:

- The prescribed courses are specifically named.
- The prescribed courses are made up of some which are specifically named and some which are taken from a list.
- All prescribed courses are chosen from a list.

4. Additional Requirements for Individualized Programs of Emphasis

Students who do not adopt a Designated Program of Emphasis may design an Individualized Program of Emphasis of their own. This option is for students with particular interests not addressed in designated POEs to make appropriate combinations of courses to precisely address those interests.

Students wishing to pursue this option must:

a. Select an advisor in each department named in the title of the POE. In the unlikely event that an Individualized POE title named three academic departments, three advisors would be required.
b. Create, in consultation with the advisor, a collection of courses to constitute the POE. If a course listed in the POE has prerequisites, these prerequisites must also be included in the POE.
c. Create, in consultation with the advisors, a goal statement and a rationale, which explains how the courses included in the POE enable the student to fulfill the goals for the POE. Ultimately, the acceptance of an individualized POE will depend on the student's ability to justify that a particular combination of courses will allow them to reach the stated academic goals. Special attention should be devoted to the description of those goals and the rationale connecting them to the courses selected.
d. Solicit from all of their advisors supporting comments attesting to the acceptability of the student's academic goals, the appropriateness of the course selections and rationale, and the overall coherence of the POE. Advisors' signatures without comments will not be sufficient.
e. Submit the completed POE and the advisors' comments to the Registrar for approval. The Registrar, following policies established by the Department and Program Committee, will evaluate the appropriateness of the POE title, course selections, goal statement, and rationale.

Any POE that does not satisfy the requirements of a Designated POE is by definition an Individualized POE and must therefore be accompanied by a goal statement and rationale. Advisors should pay particular attention to attempts which effectively weaken a Designated POE without contributing sufficient complementary breadth or depth.

All individualized Programs of Emphasis must be approved by the student’s faculty advisors and the chair(s) of the appropriate department(s). Approval requires students to write a rationale that describes how the courses they have listed help them reach the academic goals of the individualized POE.

The POE Capstone for those with an individualized POE may be in a related designated POE or may be another appropriate experience in consultation with the student’s advisors.

5. Exceptions to POE Credit Requirements

The following are exceptions to the requirement that POEs contain at least 36 credits and no more than 63 credits:

a. Education POEs

Designated POEs in Education may exceed the 63-credit-hour limit if doing so is necessary for Pennsylvania state certification to teach in the public schools; in such cases, Education designated POEs may have no more than the number of credit hours required for certification by the Pennsylvania Department of Education.

b. World Language POEs

A designated or individualized Program of Emphasis in French, German, Russian, or Spanish and Hispanic Cultures may be approved with fewer than 36 credit hours provided that students have placed beyond the WL 110 level by completing the department's designated placement exam. The POE must contain at least 33 credits in the target language beyond SP, GR, FR, or RU 210 and one credit hour of Language in Motion.

c. External Certification

Programs requiring more than 63 credits to obtain external certification as approved by the Department and Program Committee.

C. Program of Emphasis Home Department
A home department or program is any recognized academic unit which sponsors designated and/or individualized POEs. In order to ensure quality and integrity of the POE, the responsibility of the home department is to review student POE submissions. In consultation with advisors, all students must choose a home department or program at the time of the submission of the sophomore POE. The home department is especially important for students with Individualized POEs. It allows these students the flexibility and creativity of self-design while ensuring that they are housed within an academic unit that can provide accountability and support.

D. Program of Emphasis Dates
Sophomores must choose a designated POE or design an individualized POE and submit an appropriate POE statement to the Registrar by the second semester of the sophomore year.

III. Juniata Portfolio

All Juniata students will complete a portfolio of their work from their general education courses and from their POE capstone course. These requirements are described by the General Education Committee.

IV. A minimum of 120 credit hours with a grade of D- or better, including the courses described above.

V. A minimum cumulative grade point average of 2.0 on a 4.0 scale.

VI. Policies

Residency

Students are allowed to transfer credits during their last semester within the provisions of the transfer policy. However, 30 of the last 36 credits must be taken in residence. There are degree requirements that are unique to Juniata and may not be completed elsewhere. Students participating in cooperative programs, study abroad programs, and other Juniata-approved programs are considered to be in residence.

Effective Date

Students must complete the graduation requirements in effect on the date of their matriculation, which is the first day of their first term of enrollment as a degree-seeking student.

PARTICIPATION IN COMMENCEMENT CEREMONY

There are two distinct processes that indicate completion of a student's academic career: satisfactory completion of academic requirements and participation in the commencement ceremony. This policy is solely concerned with the ceremonial event of commencement, i.e. not the conferral of degree.

Students who have not completed all graduation requirements will be permitted to participate in the commencement ceremony under the following circumstances:

- The remaining coursework consists of not more than eight academic credits, and the student is in good academic standing, defined in Academic Standards of Progress. Whenever possible, the student submits a request to participate to the Registrar's Office for consideration. The request to participate must provide a specific, detailed, and realistic plan for completing the remaining credits by the end of the summer term and be approved by the Registrar's Office.
- Students who have studied away and are waiting for official transcripts from the external institution may participate in the commencement ceremony if verification of sufficient academic progress at the external institution is provided to the Registrar's Office.
- Partner degree students who are waiting for official transcripts from their home institution may participate in the May commencement ceremony.
- Students in 3+ programs may participate in the commencement ceremony following their fourth or fifth year if verification of sufficient academic progress at the external institution is provided to the Registrar's Office.
- 3+ programs are defined as designated programs where a student completes their final year at an external institution.

Petitions for all exceptions will be reviewed by the Student Academic Development Committee as provided in the Faculty Manual. The committee will report decisions to the Provost.

Undergraduate Programs of Study

PROGRAMS OF EMPHASIS (MAJORS)

Accounting (Bachelor of Science)

ACCOUNTING CORE
Take the following courses:
EB-100 Introduction to Management
EB-131 Financial Accounting
EB-202 Behavioral Analysis of Organizations
EB-203 Introduction to Business Law
EB-204 Legal Regulation of Business
EB-211 Business Statistics
EB-222 Principles of Macroeconomics
EB-223 Principles of Microeconomics
EB-232 Intermediate Accounting I
EB-233 Intermediate Accounting II
EB-236 Managerial Accounting
EB-332 Corporate Taxation
EB-333 Governmental and Nonprofit Accounting
EB-337 Cost Accounting
EB-335 Auditing
EB-342 Management Information Systems
EB-351 Marketing Management
EB-361 Financial Management I

ETHICS REQUIREMENT
Take one of the following courses:
PL-106 Introduction to Ethics
PL-230 Business Ethics

All students must meet the graduation requirements for quantitative literacy. We recommend that students take one of the following two courses. (Neither is to be included in the POE). Please note that most graduate programs in accounting require a college course in calculus.
MA-130 Calculus I
EB-210 Quantitative Business Analysis

Note: Students who plan to sit for the CPA exam should be aware that the rules are changing. Most states now require 150 hours of college. Students should keep abreast of changes in PA law, as well as the rules of the state they may be interested in. Most of this information is available online. Students can also consult the Digest of State Accountancy Laws and State Board Regulations in Beeghly Library.

CAPSTONE
Take the following course:
EB-480 Senior Seminar

The Accounting, Business, and Economics (ABE) Department does not permit students in their department to pursue more than one ABE Program of Emphasis (POE). Students wishing to develop individualized POEs incorporating multiple ABE disciplines should consult with their POE Advisor for guidance.

POE Credit Total = 61
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Art & Design (Bachelor of Arts)

CORE COURSES
Take the following courses:
AR-104 Design and Color
AR-376 Business of Design
AR-459 Capstone Seminar

Take one of the following courses:
AR-103 Beginning Drawing
AR-200 Beginning Painting

Take one of the following courses:
AR-203 Digital Photography I
AR-204 Digital Art I

Take one of the following courses:
AR-215 Ceramic Sculpture
AR-117 Intro to Sculpture

Take one of the following courses:
AH-108 Cross Cultural Art 1
AH-113 Cross-Cultural Art 2
AH-329 Impressionism to Abstract Expressionism
AH-330 Why Is That Art? 1945-Present

Take one of the following courses:
MM-391 Ethics and Museums
ND-311 Digital Ethics

Take one of the following courses:
MM-480 Museum Practicum I
AR-393 Integrated Media Practicum

ART & DESIGN TRACKS
Complete one of the following tracks below:

2D ARTS TRACK
**2D Art students are required to take 12 credits at the 300-400 level*

CORE COURSES
Take 16 credits from the following courses (Special Topic courses can be included at discretion of Department Chair):
AR-200 Beginning Painting
AR-202 Water-Based Media Painting
AR-203 Digital Photography I
AR-204 Digital Art I
AR-208 Beginning Photography
AR-298 Mixed Media Animation
AR-300 Intermediate Painting
AR-400 Advanced Painting

UPPER-LEVEL ART HISTORY ELECTIVES
Take 4 credits from the following courses:
AH-30 African-American Art: Slavery to Social Justice
AH-303 Reframing American Art to 1876
AH-304 Reframing American Art from 1876
AH-309Expanding the Renaissance
AH-310 Global Baroque Art & Architecture
AH-311 Art of Ancient Peoples
AH-312 Medieval Art: Really a Dark Age?
AH-313 Northern Renaissance Art
AH-316 Art & Revolution: 19th Century Europe
AH-329 Impressionism to Abstract Expressionism
AH-330 Why Is That Art? 1945-Present
AH-399 Special Topics in Art History

CAPSTONE EXPERIENCE
Take the following courses:
AR-451 Capstone in 2D Studio Art I
AR-452 Capstone in 2D Studio Art II

3D ARTS TRACK
**3D Art students are required to take 12 credits at the 300-400 level*

CORE COURSES
Take 15 credits from the following courses (Special Topic courses can be included at discretion of Department Chair):
AR-117 Intro to Sculpture
AR-125 Explorations in Clay
AR-211 The Art of Bookmaking
AR-215 Ceramic Sculpture
AR-220 Formulating Beauty: Ceramic Chemistry
AR-225 Wheel Throwing
AR-235 Empty Bowls Practicum
AR-298Mixed Media Animation
AR-305 Intermediate Ceramics
AR-405 Advanced Ceramics

UPPER-LEVEL ART HISTORY ELECTIVES
Take 4 credits from the following courses:
AH-301African-American Art: Slavery to Social Justice
AH-303 Reframing American Art to 1876
AH-304 Reframing American Art from 1876
AH-309 Expanding the Renaissance
AH-310 Global Baroque Art & Architecture
AH-311 Art of Ancient Peoples
AH-312 Medieval Art: Really a Dark Age?
AH-313 Northern Renaissance Art
AH-316 Art & Revolution: 19th Century Europe
AH-329 Impressionism to Abstract Expressionism
AH-330 Why Is That Art? 1945-Present
AH-399 Special Topics in Art History

CAPSTONE EXPERIENCE
Take the following courses:
AR-453 Capstone in 3D Studio Art I
AR-454 Capstone in 3D Studio Art II

DIGITAL MEDIA DESIGN TRACK
**Digital Media Design students are required to take 12 credits at the 300-400 level*

CORE COURSES
Take 19-20 credits from the following courses (Special Topic courses can be included at discretion of Department Chair):
AR-102 Principles of Digital Media
AR-375 Community Design Lab

Take one of the following courses:
CM-133 Mass Media and Society
CM-290 The Metaverse

Take one of the following courses:
EN-273 Visual Literacy
EN-376 Writing Across Media

Take one of the following courses:
IT-105 Principles of Programming
CS-110 Computer Science I

Take one of the following courses:
DS-242 Info Visualization
IT-340 Web Design & Management

CAPSTONE EXPERIENCE
Complete one of the following options below:

OPTION 1:
Take the following courses:
AR-490 Art Internship
AR-495 Art Research Seminar

OPTION 2:
Take the following courses:
AR-496 Digital Media Capstone I
AR-497 Digital Media Capstone II

NARRATIVE ARTS TRACK
**Narrative Arts students are required to take 12 credits at the 300-400 level*

CORE COURSES
Take 18+ credits from the following courses (at least 6 credits must be AR prefixed):
AR-117 Intro to Sculpture
AR-200 Beginning Painting
AR-202 Water-Based Media Painting
AR-203 Digital Photography I
AR-204 Digital Art I
AR-208 Beginning Photography
AR-211 The Art of Bookmaking
AR-215 Ceramic Sculpture
AR-298 Mixed Media Animation
AR-300 Intermediate Painting
AR-305 Intermediate Ceramics
AR-398 3D Computer Animation
AR-400 Advanced Painting
AR-405 Advanced Ceramics
DS-242 Info Visualization
CM-240 Introduction to Storytelling
CM-290 The Metaverse
CM-340 Intercultural Communication
CM-420E Digital Storytelling
EN-208 Explorations in Creative Writing
EN-237 Constructing Identities
EN-273 Visual Literacy
EN-305 Fiction Writing
EN-306 Creative Nonfiction Writing
EN-374 Ethical Game Design
EN-376 Writing Across Media
EN-378 Video Production Writing
MS-101 Music Fundamentals
MS-116 World Musics and Cultures
MS-120 Architectural & Musical Forms
MS-130 History of American Popular Music
TH-121 Tai Chi, Level 2
TH-123 Jedi Academy
TH-161 Play/Making
TH-221 Acting I
TH-262 Solos
TH-325 Acting II
TH-405 Directing
TH-421 Acting III: Styles

CAPSTONE EXPERIENCE
Take the following courses:
AR-460 Narrative Arts Capstone I
AR-461 Narrative Arts Capstone II

POE Credit Total = 51-54
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.
Art and Design Program of Emphasis Courses.

Art History & Museum Studies (Bachelor of Arts)

MUSEUM STUDIES CORE
Take the following courses:
AH-108 Cross Cultural Art 1
MM-391 Ethics and Museums
MM-393 Cultural Institutions & Community Audiences
CONN-394 Curating Art, History & Science
MM-482 Practical Skills in 3-D Storytelling I
MM-483 Practical Skills in 3-D Storytelling II

ASSOCIATED COURSES
Take one of the following Visual Arts courses:
AR-103 Beginning Drawing
AR-104 Design and Color
AR-117 Intro to Sculpture
AR-125 Explorations in Clay
AR-175 Introduction to Nature Photography
AR-200 Beginning Painting
AR-202 Water-Based Media Painting
AR-203 Digital Photography I
AR-204 Digital Art I
AR-208 Beginning Photography
AR-211 The Art of Bookmaking
AR-215 Ceramic Sculpture
AR-220 Formulating Beauty: Ceramic Chemistry
AR-225 Wheel Throwing
AR-298 Mixed Media Animation
AR-300 Intermediate Painting
AR-305 Intermediate Ceramics
AR-308 Intermediate Photography

Take one of the following ABE courses:

EB-100 Introduction to Management
EB-105 International Economic Issues
EB-131 Financial Accounting
EB-202 Behavioral Analysis of Organizations
EB-203 Introduction to Business Law
EB-210 Quantitative Business Analysis
EB-211 Business Statistics
EB-223 Principles of Microeconomics
EB-332 Corporate Taxation
EB-341 Product and Operations Management
EB-342 Management Information Systems
EB-351 Marketing Management
EB-356 Fashion Marketing Management
EB-359 Advertising & Promo Mgmt
EB-361 Financial Management I
EB-371 Human Resource Management.
EB-375 21st Century Leadership
EB-379 Bargaining and Conflict Management

ART HISTORY COURSES
Take the following course:
AH-113 Cross-Cultural Art 2

Take five of the following courses:
AH-301 African-American Art: Slavery to Social Justice
AH-303 Reframing American Art to 1876
AH-304 Reframing American Art from 1876
AH-309 Expanding the Renaissance
AH-310 Global Baroque Art & Architecture
AH-311 Art of Ancient Peoples
AH-312 Medieval Art: Really a Dark Age?
AH-316 Art & Revolution: 19th Century Europe
AH-329 Impressionism to Abstract Expressionism
AH-330 Why Is That Art? 1945-Present

INTERNSHIP
Complete one of the following options below:

OPTION 1:
Take AH-490 and AH-495 for 1-5 credits.
AH-490 Internship
AH-495 Internship Research Seminar

OPTION 2:
Take AH-001 or HS-001 as a non-credit transcript notation. NOTE: A second internship is strongly recommended.
AH-001 Non-Credit Art History Internship
HS-001 Non-Credit History Internship

CAPSTONE
Take the following courses below:
AH-492 Senior Thesis in Art History
HS-493 The Historian's Craft

POE Credit Total = 55-60
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Astronomy (Bachelor of Science)

MATHEMATICAL CORE
Take the following courses:
MA-130 Calculus I
MA-230 Calculus II

ASTRONOMY COURSES
Take 30 credits from the following courses:
PC-189 Physics Seminar
PC-202 Intro Physics I
PC-202L Intro Physics Lab I
PC-203 Intro Physics II
PC-203L Intro Physics Lab II
PC-301 Modern Physics
AS-160 Measuring the Universe
AS-260 Observational Astronomy
AS-360 Advanced Observational Methods
AS-430 Astrophysics I
CS-110 Computer Science I

COGNATE AREA
Take 6 credits (at any level) that connect Astronomy to a focused disciplinary or interdisciplinary application.

Take an additional 6 credits (at the 300/400 level) that connect Astronomy to a focused disciplinary or interdisciplinary application.

NOTE: Cognate area should be a coherent set of courses determined in consultation with the POE advisor.

CAPSTONE
Take the following course:
AS-455 Astronomy Capstone

POE Credit Total = 52-54
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Astrophysics (Bachelor of Science)

MATHEMATICAL CORE
Take the following courses:
MA-130 Calculus I
MA-230 Calculus II
MA-235 Calculus III
MA-335 Differential Equations

ASTROPHYSICS COURSES
Take 41 credits from the following courses:
PC-189 Physics Seminar
PC-202 Intro Physics I
PC-202L Intro Physics Lab I
PC-203 Intro Physics II
PC-203L Intro Physics Lab II
PC-301 Modern Physics
PC-402 Quantum Mechanics
PC-491 Electricity & Magnetism
AS-160 Measuring the Universe
AS-260 Observational Astronomy
AS-360 Advanced Observational Methods
AS-430 Astrophysics I
AS-431 Astrophysics II
CS-110 Computer Science I

CAPSTONE
Take the following course:
AS-455 Astronomy Capstone

POE Credit Total = 59-61
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Behavioral Data Science (Bachelor of Science)

BEHAVIORAL DATA SCIENCE CORE
Take the following courses:
DS-110 Intro to Data Science
DS-210 Data Acquisition
DS-242 Info Visualization
MA-160 Linear Algebra
CS-110 Computer Science I
CS-370 Database Management Systems
PY-101 Introduction to Psychology
PY-366 Research Methods & Statistics

Take one of the following courses:
MA-116 Discrete Structures
MA-130 Calculus I
EB-211 Business Statistics

STATISTICS CORE
Take one of the following courses:
MA-205 Elementary Statistics
MA-220 Introduction to Probability & Statistics
EB-211 Business Statistics
BI-305 Biostatistics
ESS-230 Environmetrics

BREADTH
Take the following courses:
MA-321 Multivariate Statistics
PY-205 Social Psychology
PY-270 Cognitive Neuroscience
PY-321 Health Psychology

Take 3 credits from the following courses:
MA-325 Statistical Consulting
PY-340 Research in Psychology
PY-341 Research in Psychology

Take one of the following courses:
CS-261 AI Fundamentals
CS-341 Scientific Computing
DS-352 Machine Learning
DS-375 Big Data

CAPSTONE
Take the following course:
DS-420 Data Science Capstone

POE Credit Total = 56-59
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Biochemistry (Bachelor of Science)

CHEMISTRY COURSES
Complete one of the following options below:

OPTION 1:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab

OPTION 2: (AP score of 4 or 5 required or instructor permission)
CH-150 Accelerated General Chemistry I

ADDITIONAL CHEMISTRY COURSES
Take the following courses:
CH-232 Organic Chemistry I

CH-233 Organic Chemistry I Lab
CH-312 Biochemistry
CH-317 Biochemistry Lab
CH-332 Organic Chemistry II
CH-353 Physical Chemistry Laboratory
CH-460 Biochemistry of Metabolism

Take one the following courses:
CH-351 Biophysical Chemistry
CH-356 Thermodynamics & Chemical Kinetics

BIOLOGY COURSES
Take the following courses:
BI-101 General Biology I
BI-102 General Biology II
BI-209 Cell & Molecular Biology
BI-316 Advanced Molecular and Cellular Biology

ELECTIVE COURSES
Complete 3 credits from the following courses:
CH-360 Quantum Chemistry & Spectroscopy
CH-372 Instrumental Methods
CH-401 Advanced Organic Chemistry
BI-317 Principles of Genetics
BI-318 Developmental Biology
BI-340 Medical Microbiology
BI-405 Bioinformatics Fundamentals
BI-437 Molecular Ecology
BI-444 Immunology

MATHEMATICS COURSES
Take the following course:
MA-130 Calculus I

PHYSICS COURSES
Complete one of the following options below:

OPTION 1:
PC-201 General Physics II
PC-201L General Physics Lab II
PC-202 Intro Physics I
PC-202L Intro Physics Lab I

OPTION 2:
PC-202 Intro Physics I
PC-202L Intro Physics Lab I
PC-203 Intro Physics II
PC-203L Intro Physics Lab II

CAPSTONE
Take the following courses:
CH-486 Chemical Sciences Capstone 1
CH-487 Chemical Sciences Capstone 2

POE Credit Total = 57-61
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Biology (Bachelor of Science)

BIOLOGY CORE
Take the following courses:
BI-101 General Biology I
BI-102 General Biology II
BI-209 Cell & Molecular Biology
BI-289 Frontiers of Biology

CHEMISTRY CORE
Take the following courses:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab
CH-232 Organic Chemistry I
CH-233 Organic Chemistry I Lab

PHYSICS CORE
Complete one of the following options below (8 credits):
OPTION 1:
PC-200 General Physics I
PC-200L General Physics Lab I
PC-201 General Physics II
PC-201L General Physics Lab II

OPTION 2:
PC-202 Intro Physics I
PC-202L Intro Physics Lab I
PC-203 Intro Physics II
PC-203L Intro Physics Lab II

QUANTITATIVE CORE
Take one of the following courses:
MA-100 Precalculus
MA-130 Calculus I
BI-305 Biostatistics

WRITING IN BIOLOGY
Take one of the following courses:
BI-314 Talk Nerdy to Me
BI-315 Grant Writing for STEM

MENTORED EXPERIENCE
Take 3-6 credits from the following courses:

BI-380 Biology Research Methods
BI-384 Experiential Ecology
BI-489 Biology Research
BI-490 Biology Internship
BI-495 Internship Seminar
BI-TUT Biology Teaching Assistant
ED-450 Student Teaching
ED-451 Student Teaching Seminar
HP-300 Health Navigator Practicum
HP-490 Intern/Need Paperwork
HP-495 Health Professions Internship Research

MOLECULAR & CELLULAR
Take 3-4 credits from the following courses:
BI-316 Advanced Molecular and Cellular Biology
BI-317 Principles of Genetics
BI-318 Developmental Biology
BI-331 Molecular Microbiology
BI-332 Molecular Microbiology Lab
BI-340 Medical Microbiology
BI-405 Bioinformatics Fundamentals
BI-437 Molecular Ecology
BI-444 Immunology
BI-450 Neurobiology
BI-470 Practical Genomics
BI-471 Applied Bioinformatics
BI-472 Biotechnology
BI-481 Medical Genomics Research Methods
CH-312 Biochemistry
CH-418 Advanced Biochemistry

ORGANISMAL
Take 3-4 credits from the following courses:
BI-310 Physiology
BI-317 Principles of Genetics
BI-318 Developmental Biology
BI-323 Mammalogy
BI-324 Ornithology
BI-327 Botany
BI-333 Plant Diversity
BI-340 Medical Microbiology
BI-350 Invertebrate Zoology
BI-351 Invertebrate Zoology Lab
BI-360 Vertebrate Zoology
BI-361 Vertebrate Zoology Lab
BI-362 Animal Behavior
BI-367 Comparative Anatomy
BI-368 Comp Anatomy Laboratory
BI-370 Herpetology
BI-417 Reproductive Biology
PC-317 Medical Physics

ECOLOGY/EVOLUTION
Take 3-4 credits from the following courses:
BI-300 General Ecology
BI-301 General Ecology Lab
BI-312 Altered Ecosystems
BI-325 Plant Ecology
BI-326 Plant Ecology Lab
BI-339 Organic Evolution
BI-344 Winter Dendrology
BI-362 Animal Behavior
BI-384 Experiential Ecology
BI-432 Environmental Toxicology
BI-437 Molecular Ecology
BI-471 Applied Bioinformatics
ESS-325 Conservation Biology
ESS-328 Limnology

CAPSTONE
Take the following course below:
ND-498 Natural Sciences Capstone

POE Credit Total = 52-58
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Biology and Secondary Education (Bachelor of Science)

BIOLOGY CORE
Take the following courses:
BI-101 General Biology I
BI-102 General Biology II
BI-289 Frontiers of Biology

CHEMISTRY CORE
Take the following courses:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab
CH-232 Organic Chemistry I
CH-233 Organic Chemistry I Lab

STATISTICS CORE
Take one of the following courses:
MA-130 Calculus I
BI-305 Biostatistics
BI-305CW Biostatistics

PHYSICS CORE
Complete one of the following options below (8 credits):
OPTION 1:

PC-200 General Physics I
PC-200L General Physics Lab I
PC-201 General Physics II
PC-201L General Physics Lab II

OPTION 2:
PC-202 Intro Physics I
PC-202L Intro Physics Lab I
PC-203 Intro Physics II
PC-203L Intro Physics Lab II

UPPER-LEVEL BIOLOGY
*Take 18 credits of 300-400 Biology credits. Approved courses from Chemistry, ESS, and Psychology are permitted. *Consult with POE advisor to make certain courses selected are correct.*
BI-300 General Ecology
BI-301 General Ecology Lab
BI-325 Plant Ecology
BI-326 Plant Ecology Lab
BI-339 Organic Evolution
ESS-325 Conservation Biology
ESS-320 Environmental Monitoring
PY-402 Evolutionary Psychology
PY-401 Comparative Psychology
ESS-328 Limnology
BI-331 Molecular Microbiology
BI-332 Molecular Microbiology Lab
CH-418 Advanced Biochemistry
BI-316 Advanced Molecular and Cellular Biology
BI-318 Developmental Biology
BI-340 Medical Microbiology
CH-312 Biochemistry
BI-360 Vertebrate Zoology
BI-361 Vertebrate Zoology Lab
BI-350 Invertebrate Zoology
BI-351 Invertebrate Zoology Lab
BI-367 Comparative Anatomy
BI-368 Comp Anatomy Laboratory
BI-327 Botany
BI-324 Ornithology
BI-323 Mammalogy
BI-370 Herpetology
BI-310 Physiology
BI-305 Biostatistics
BI-399 Special Topics
BI-450 Neurobiology
BI-432 Environmental Toxicology
BI-432CW Environmental Toxicology
BI-417 Reproductive Biology
BI-444 Immunology

EDUCATION CORE
Take the following courses:
ED-110 Foundations of Education
ED-111 Foundations of Education Field Experience
ED-130 Adolescent Development
ED-240 Introduction to Students with Exceptionalities
ED-314 English Language Learners
ED-341 Adaptations for Students with Exceptional Needs
ED-341F Adaptations for Students with Special Needs Field Experience
ED-419 Pre-Student Teaching Field Experience
ED-420 General Secondary Methods & Ethics in Education
ED-423 Secondary Education Field Trip

CAPSTONE
Take the following courses:
ED-450 Student Teaching
ED-451 Student Teaching Seminar

**ED 450 & ED 451 (Student Teaching and Seminar) may be taken only in the FALL semester of the senior year. Secondary Foreign Language Education majors take ED 450 & ED 451 in the SPRING semester. ED 450 requires students' full-time participation and no other courses may be taken during this semester without the education advisor's approval. Students must have reliable transportation.

POE Credit Total = 85-88
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Business Analytics (Bachelor of Science)

BUSINESS ANALYTICS CORE
Take the following courses:
EB-100 Introduction to Management
EB-131 Financial Accounting
EB-202 Behavioral Analysis of Organizations
EB-222 Principles of Macroeconomics
EB-236 Managerial Accounting
EB-351 Marketing Management
ESS-230 Environmetrics
CS-110 Computer Science I
CS-370 Database Management Systems
DS-110 Intro to Data Science
DS-242 Info Visualization

INTRODUCTORY STATISTICS
Take one of the following courses below:
EB-211 Business Statistics

MA-205 Elementary Statistics
MA-220 Introduction to Probability & Statistics

ELECTIVES
Take four of the following courses below:
CM-200 Art of Public Speaking
MA-116 Discrete Structures
MA-321 Multivariate Statistics
MA-325 Statistical Consulting
DS-210 Data Acquisition
DS-352 Machine Learning
DS-375 Big Data

UPPER-LEVEL CORE
Take an additional course from the EB Department at the 300/400 level.

CAPSTONE
Take the following course:
EB-480 Senior Seminar

The Accounting, Business, and Economics (ABE) Department does not permit students in their department to pursue more than one ABE Program of Emphasis (POE). Students wishing to develop individualized POEs incorporating multiple ABE disciplines should consult with their POE Advisor for guidance.

POE Credit Total = 56-58
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Business Information Technology (Bachelor of Science)

BUSINESS INFORMATION TECHNOLOGY CORE
Take the following courses:
EB-100 Introduction to Management
EB-105 International Economic Issues
IT-110 Principles of Information Technology
CS-110 Computer Science I
EB-131Financial Accounting
CM-200 Art of Public Speaking
EB-202 Behavioral Analysis of Organizations
IT-210 Information Technology Systems
EB-236Managerial Accounting
IT-307 Project Management
IT-340 Web Design & Management

Take one of the following courses:
EB-210Quantitative Business Analysis
MA-130 Calculus I

Take one of the following courses:
EB-211 Business Statistics
MA-205 Elementary Statistics

Take one of the following courses:
CS-370 Database Management Systems
EB-342 Management Information Systems

Take one of the following courses:
EB-203 Introduction to Business Law
EB-204 Legal Regulation of Business

Take the following course:
CM-290 The Metaverse

UPPER-LEVEL ELECTIVES
Complete one 300/400 level course from the IT or CS Department (AND) one 300/400 level course from the EB Department.

CAPSTONE
Take the following course:
EB-480 Senior Seminar

NOTE: Although not required, an internship may be taken. In some instances, a student (in consultation with his or her advisor) may substitute a course.

The Accounting, Business, and Economics (ABE) Department does not permit students in their department to pursue more than one ABE Program of Emphasis (POE). Students wishing to develop individualized POEs incorporating multiple ABE disciplines should consult with their POE Advisor for guidance.

The Information Technology and Computer Science (ITCS) Department does not permit students to pursue the following dual Programs of Emphases (POEs).
Information Technology & Computer Science
Information Technology & Business Information Technology
Computer Science & Business Information Technology

POE Credit Total = 60-64
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Chemistry (Bachelor of Science)

INTRODUCTORY COURSES
Complete one of the following options below:

OPTION 1:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab

OPTION 2: (AP score of 4 or 5 required or instructor permission)
CH-150 Accelerated General Chemistry I

FOUNDATION COURSES
Take the following courses:
CH-222 Inorganic Chemistry
CH-232 Organic Chemistry I
CH-233 Organic Chemistry I Lab
CH-252 Analytical Chemistry
CH-312 Biochemistry
CH-317 Biochemistry Lab
CH-353 Physical Chemistry Laboratory

Take one of the following courses:
CH-351 Biophysical Chemistry
CH-356 Thermodynamics & Chemical Kinetics

IN-DEPTH COURSES
Take 9 credits from the following courses:
CH-304 Pollutant Chemistry
CH-332 Organic Chemistry II
CH-360 Quantum Chemistry & Spectroscopy
CH-372 Instrumental Methods
CH-399 Special Topics
CH-401 Advanced Organic Chemistry
CH-406 Advanced Inorganic Chemistry
CH-460 Biochemistry of Metabolism
CH-499 Chemistry Special Topics

MATH & PHYSICS REQUIREMENT
Take the following course:
MA-130 Calculus I

Complete one of the following options below:
OPTION 1:
PC-201 General Physics II
PC-201L General Physics Lab II
PC-202 Intro Physics I
PC-202L Intro Physics Lab I

OPTION 2:
PC-202 Intro Physics I
PC-202L Intro Physics Lab I
PC-203 Intro Physics II
PC-203L Intro Physics Lab II

CAPSTONE
Take the following courses:
CH-486 Chemical Sciences Capstone 1
CH-487 Chemical Sciences Capstone 2

POE Credit Total = 50-54
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Chemistry and Secondary Education (Bachelor of Science)

INTRODUCTORY COURSES
Complete one of the following options below:

OPTION 1:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab

OPTION 2: (AP score of 4 or 5 required or instructor permission).
CH-150 Accelerated General Chemistry I

FOUNDATION COURSES
Take the following courses:
CH-222 Inorganic Chemistry
CH-232 Organic Chemistry I
CH-233 Organic Chemistry I Lab
CH-252 Analytical Chemistry
CH-312 Biochemistry
CH-317 Biochemistry Lab
CH-353 Physical Chemistry Laboratory

Take one of the following courses:
CH-351 Biophysical Chemistry
CH-356 Thermodynamics & Chemical Kinetics

IN-DEPTH COURSES
Take 9 credits from the following courses:
CH-304 Pollutant Chemistry
CH-332 Organic Chemistry II
CH-360 Quantum Chemistry & Spectroscopy
CH-372 Instrumental Methods
CH-399 Special Topics

CH-401 Advanced Organic Chemistry
CH-406 Advanced Inorganic Chemistry
CH-460 Biochemistry of Metabolism
CH-499 Chemistry Special Topics

Requirements for ACS-certified degree: Take one additional in-depth course and a minimum of 400 total laboratory hours.

MATH CORE
Take the following course:
MA-130 Calculus I

PHYSICS CORE
Complete one of the following options below:

OPTION 1:
PC-201 General Physics II
PC-201L General Physics Lab II
PC-202 Intro Physics I
PC-202L Intro Physics Lab I

OPTION 2:
PC-202 Intro Physics I
PC-202L Intro Physics Lab I
PC-203 Intro Physics II
PC-203L Intro Physics Lab II

EDUCATION CORE
Take the following courses:
ED-110 Foundations of Education
ED-111 Foundations of Education Field Experience
ED-130 Adolescent Development
ED-240 Introduction to Students with Exceptionalities
ED-314 English Language Learners
ED-341 Adaptations for Students with Exceptional Needs
ED-341F Adaptations for Students with Special Needs Field Experience
ED-419 Pre-Student Teaching Field Experience
ED-420 General Secondary Methods & Ethics in Education
ED-423 Secondary Education Field Trip

CAPSTONE
Take the following courses:
ED-450 Student Teaching
ED-451 Student Teaching Seminar

**ED 450 & 451 (Student Teaching and Seminar) may be taken only in the FALL semester of the senior year. ED 450 requires students' full-time participation and no other courses may be taken during this semester without the education advisor's approval. Students must have reliable transportation.

POE Credit Total = 82-86
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Civil Engineering (Bachelor of Science)

SCIENCE CORE
Take the following courses:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
GL-126 Environmental Geochemistry
PC-202 Intro Physics I
PC-202L Intro Physics Lab I
PC-260 Intro to Materials Science & Engineering
PC-320 Engineering Mechanics I: Statics
PC-321 Engineering Mechanics II: Dynamics

MATH CORE
Take the following courses:
MA-130 Calculus I
MA-230 Calculus II
MA-235 Calculus III
MA-335 Differential Equations
CS-110 Computer Science I

Take one of the following Statistics courses:
CEE-230 Applied Engineering Data Analytics
MA-205 Elementary Statistics
MA-220 Introduction to Probability & Statistics
BI-305 Biostatistics
DS-110 Intro to Data Science

ENGINEERING CORE
Take the following courses:
CEE-101 Intro to Civil & Environmental Engineering
CEE-200 Fundamentals of Environmental Engineering
PC-299 Special Topics
CEE-310 Hydrology
CEE-312 Fluid Mechanics
CEE-318 Environmental Water Quality
CEE-320 Geotechnical Engineering
CEE-321 Geotechnical Engineering Lab
CEE-340 Transportation Engineering
CEE-400 Structural Analysis
CEE-410 Open Channel Flow
ESS-305 Environmental Economics
ESS-330 Geographical Information Systems

ELECTIVES

Take 6 credits from the CEE Department at the 300/400 level.

CAPSTONE
Take the following course below:
CEE-401 Civil & Environ Engineering Capstone

POE Credit Total = 88-91
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Communication (Bachelor of Arts)

COMMUNICATION CORE COURSES
Take the following courses:
CM-131 Interpersonal Communication
CM-132 Message Analysis
CM-133 Mass Media and Society
CM-200 Art of Public Speaking
CM-401 Senior Seminar

SKILLS & METHODS COURSES
Complete 9 credits from the following courses below:
(3 credits must be at the 300-level)
CM-210 Race and Language in the United States
CM-220 Group Communication
CM-240 Introduction to Storytelling
CM-241 Introduction to Media Practice
CM-261 CM Studies in Germany I
CM-262 CM Studies in Germany II
CM-263 Digital Audio Production
CM-288 Strategic Communication
CM-289 Communication Practicum
CM-290 The Metaverse
CM-299 Special Topics
CM-330 Media Analysis
CM-310 Understanding Health Inequity

UPPER-LEVEL SEMINAR COURSES
Complete 6 credits from the following courses below:
CM-300 Professional Presentations
CM-340 Intercultural Communication
CM-342 Documentary History & Theory
CM-365 Organizational Communication
CM-388 Public Communication Campaigns
CM-399 Special Topics
CM-400A Health Communication
CM-405A Women, Work & Identity
CM-420A Hollywood Films
CM-420E Digital Storytelling
CM-499 Special Topics

WRITING COURSES
Complete 4 credits from the following courses below:
EN-315 Technical Writing
EN-376 Writing Across Media
EN-378 Video Production Writing

ELECTIVES
Complete 3 credits from the following courses below:
CM-341 Intermediate Media Practice
IM-310 Social Media
CM-363 Digital Video Production I
CM-463 Digital Video Production II
PACS-108 Mediation
PACS-210 Technology, Social Media, and Conflict

CAPSTONE
Complete one of the following options below:

OPTION 1:
CM-490 Communication Internship
CM-495 Communication Internship Research

OPTION 2:
CM-497 Senior Thesis Seminar
CM-498 Senior Thesis Research

POE Credit Total = 39
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Communication Advocacy (Bachelor of Arts)

CORE COURSES
Take the following courses:
CM-131 Interpersonal Communication
CM-132 Message Analysis
CM-133 Mass Media and Society
CM-200 Art of Public Speaking
CM-401 Senior Seminar

SKILLS & METHODS COURSES
Take 12 credits from the following courses:
CM-210 Race and Language in the United States
CM-220 Group Communication
CM-131 Interpersonal Communication
CM-240 Introduction to Storytelling
CM-241 Introduction to Media Practice
CM-250 LEAD:Listen & Empath Advocacy Diversity
CM-261 CM Studies in Germany I
CM-262 CM Studies in Germany II

CM-288 Strategic Communication
CM-289 Communication Practicum
CM-300 Professional Presentations
CM-330 Media Analysis
CM-310 Understanding Health Inequity

SEMINAR COURSES
Take 12 credits from the following courses:
CM-340 Intercultural Communication
CM-342 Documentary History & Theory
CM-365 Organizational Communication
CM-388 Public Communication Campaigns
CM-400A Health Communication
CM-405A Women, Work & Identity
CONN-350 Community Health Advocacy
CM-420D Truth and Lying
HS-400 Crimes Against Humanity
EN-302 Literature of Social Protest

ELECTIVE COURSES
Take 12 credits from the following courses:
EN-193 Immigrant Voices
EN-271 Public Health Writing
EN-299 Special Topics
PL-235 Ethics of Health Care
PACS-105 Introduction to Conflict Resolution
PACS-305 Gender and Conflict
CM-290 The Metaverse
HS-221 Gender and Sexuality
HS-367 Women in Africa
HS-324 Gendering the Raj
SO-203 Minority Experiences
SO-242 Aging & Society
SO-305 Gender and Society

CAPSTONE
Complete one of the following options below (a minimum of 4 credits):

OPTION 1:
CM-490 Communication Internship
CM-495 Communication Internship Research

OPTION 2:
CM-497 Senior Thesis Seminar
CM-498 Senior Thesis Research

POE Credit Total = 55
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Communication & Conflict Resolution (Bachelor of Arts)

CORE COURSES
Complete at least 15 credits from the following courses:
PACS-105 Introduction to Conflict Resolution
PACS-108 Mediation
PACS-110 Introduction to Peace & Conflict Studies
CM-131 Interpersonal Communication
CM-132 Message Analysis
CM-133 Mass Media and Society
CM-210 Race and Language in the United States

SKILLS / METHODS COURSES
Complete at least 12 credits from the following courses:
CM-200 Art of Public Speaking
CM-220 Group Communication
CM-300 Professional Presentations
CM-310 Understanding Health Inequity
CM-330 Media Analysis

PEACE AND CONFLICT AND COMMUNICATION COURSES
Complete 17-18 credits from the designated subject areas below:
CM-299 Special Topics
CM-340 Intercultural Communication
CM-365 Organizational Communication
CM-399 Special Topics
CM-405A Women, Work & Identity
CM-420E Digital Storytelling
CM-499 Special Topics
PACS-299 Special Topics
PACS-305 Gender and Conflict
PACS-308 Nonviolence and Social Justice
EB-379 Bargaining and Conflict Management
PACS-399 Special Topics
PACS-499 Special Topics

CAPSTONE / EXPERIENTIAL LEARNING
Complete one of the following options below (at least 3-4 credits). A capstone in History, Economics or Politics may be substituted in consultation with POE advisor.

OPTION 1:
Complete one of the following combinations - PACS-455/455B or CM-497/498:
PACS-455 PACS Honors Thesis I
PACS-455B PACS Honors Thesis II
CM-497 Senior Thesis Seminar

CM-498 Senior Thesis Research

OPTION 2:
Complete one of the following combinations - PACS-490/495 or CM-490/495:
PACS-490Peace & Conflict Studies Internship
PACS-495 PACS Intern.Res.Sem.
CM-490 Communication Internship
CM-495 Communication Internship Research

In addition we recommend that students choose a secondary emphasis developing greater depth in a particular area of interest. For example students interested in group dynamics would focus in sociology or social work, students with an interest in individual behaviors and choices would add psychology, an interest in political change would suggest politics courses.

POE Credit Total = 48
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Computational Physics (Bachelor of Science)

PHYSICS CORE
Take the following courses:
PC-189 Physics Seminar
PC-202 Intro Physics I
PC-202L Intro Physics Lab I
PC-203 Intro Physics II
PC-203L Intro Physics Lab II
PC-209 Electronics
PC-301 Modern Physics
PC-302 Experimental Methods

MATHEMATICS CORE
Take the following courses:
MA-116 Discrete Structures
MA-130 Calculus I
MA-160 Linear Algebra
MA-230 Calculus II
MA-235 Calculus III
MA-335 Differential Equations
MA-341 Scientific Computing

COMPUTER SCIENCE CORE
Take the following courses:
CS-110 Computer Science I
CS-240 Computer Science II

UPPER-LEVEL COURSES
Take at least 8.00 additional Physics (PC) or Astronomy (AS) credits at the 300 or 400 level:

CAPSTONE
Take one of the following courses:
AS-455 Astronomy Capstone
PC-455 Physics & Engineering Physics Capstone

POE Credit Total = 62
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Computer Science (Bachelor of Science)

COMPUTER SCIENCE CORE COURSES
Take the following courses:
CS-110 Computer Science I
CS-220 Computer Organization
CS-240 Computer Science II
CS-255C C++ Programming
CS-255U Unix Programming
CS-300 Software Engineering
CS-315 Algorithms and Analysis
CS-305 Software Models
CS-320 Operating Systems
CS-360 Programming Languages
CS-370 Database Management Systems
CS-480 Computer Science Seminar I
IT-210 Information Technology Systems
MA-116 Discrete Structures
MA-130 Calculus I

Take the following course:
MA-205 Elementary Statistics

ELECTIVE COURSES
Complete 6 credits from the following courses:
CS-199 Special Topics
CS-299 Special Topics
CS-330 Computer Graphics
CS-341 Scientific Computing
CS-390 Computer Science in Germany Seminar
CS-391 Computer Science in Germany
CS-399 Special Topics
CS-485 Computer Science Research
CS-499 Special Topics
DS-110 Intro to Data Science
DS-210 Data Acquisition
DS-242 Info Visualization
DS-352 Machine Learning
DS-375 Big Data

IT-110 Principles of Information Technology
IT-260 Human Computer Interaction
IT-325 Network Design & Management.
IT-340 Web Design & Management
IT-350 Security Engineering
IT-351 Security Engineering Lab
IT-380 Innovations for Industry II
IT-480 Innovations for Industry III
MA-160 Linear Algebra
MA-210 Foundations of Mathematics
MA-230 Calculus II
MA-233 Integrals Series & Differential Equations
MA-235 Calculus III
MA-341 Scientific Computing
PC-209 Electronics

CAPSTONE
Take the following courses:
IT-307 Project Management

POE Credit Total = 62
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Criminal Justice (Bachelor of Science)

REQUIRED COURSES
Take the following courses:
SO-101 Introduction to Sociology
PS-101 Introduction to U.S. Government
PL-106 Introduction to Ethics
CJ-260 Introduction to Criminal Justice
SO-302 Social Deviance and Criminology
CJ-360 Policing in the United States
CJ-370 Crime & United States Court System
CJ-380 U.S. Correctional System

MINORITY EXPERIENCES
Take one of the following courses:
CM-210 Race and Language in the United States
PY-211 Race, Ethnicity, and Identity Studies
EN-203 Class/Status/Identity in US Literature
EN-217 Disability in Fiction
EN-237 Constructing Identities
PS-206 The Culture War
SO-203 Minority Experiences
EN-392 Crossing the Border

METHODS REQUIREMENT
Take the following courses:
SW-214 Integrated Research Methods & Stats I
SW-215 Integrated Research Methods & Stats II

ELECTIVES
Take 6 or more credits from these designated subject/areas below:
CJ-362 Juvenile Justice
SO-244 Drugs and Society
SW-230 Introduction to Social Work Practice
SW-231 Social Problems & Social Welfare
SW-330 Social Work Practice: Individual, Family & Small Groups Laboratory
SW-331 Social Work Practice: Individual, Family & Small Groups
SW-333 Social Welfare Policies and Services
SO-243 Death & Dying
SW-221 The Life Cycle
SW-241 Children, Youth, and Family Services
PACS-105 Introduction to Conflict Resolution
PACS-108 Mediation
PY-190 Introduction to Poverty Studies
PY-312 Cultural Psychology
CJ-361 Criminalistics
PY-205 Social Psychology
PY-203 Abnormal Psychology

CAPSTONE
Take 6 credits from the following courses:
SO-401 Sociology Senior Seminar
CJ-490 Criminal Justice Internship
CJ-495 Internship Seminar

POE Credit Total = 47
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Data Science (Bachelor of Science)

DATA SCIENCE CORE
Take the following courses:
CS-110 Computer Science I
MA-116 Discrete Structures
DS-110 Intro to Data Science
MA-130 Calculus I
MA-160 Linear Algebra
CS-370 Database Management Systems
DS-210 Data Acquisition
DS-242 Info Visualization
MA-321 Multivariate Statistics
MA-325 Statistical Consulting

STATISTICS CORE
Take one of the following courses:
MA-220 Introduction to Probability & Statistics

MA-205 Elementary Statistics
EB-211 Business Statistics
BI-305 Biostatistics
ESS-230 Environmetrics
ESS-309 Econometrics
PY-366 Research Methods & Statistics
SW-215 Integrated Research Methods & Stats II

ELECTIVES
Take at least 8 credits from the following courses:
BI-314 Talk Nerdy to Me
BI-405 Bioinformatics Fundamentals
CS-315Algorithms and Analysis
CS-341 Scientific Computing
DS-352 Machine Learning
DS-37 Big Data
DS-485 Data Science Research
ESS-330 Geographical Information Systems
ESS-335 Quantitative Ecology
IT-307 Project Management
IT-308 Innovations for Industry I
MA-341 Scientific Computing

COGNATE AREA
Take 12 credits, 3 of which must be at the 300 level or higher. Cognate area should be a coherent set of courses outside the areas of Data Science, Math and Computer Science.

CAPSTONE
Take the following course:
DS-420 Data Science Capstone

POE Credit Total = 56-60
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Early Childhood Education (Bachelor of Science)

CORE COURSES
Take the following courses:
ED-110 Foundations of Education
ED-111 Foundations of Education Field Experience
ED-120 Child Development
ED-240 Introduction to Students with Exceptionalities
ED-260 Families, Schools, and Communities
ED-304 Teaching for Social Justice
ED-312 Language and the Brain
ED-313 Language and Brain Lab
ED-314 English Language Learners
ED-342 Assessment Learners
ED-343 Differentiated Instruction
ED-350 Science Methods: Stem III
ED-403 Math Methods: PreK-6
ED-411 Reading Difficulties
ED-430 Language and Literacy
ED-433 Pre-Student Teaching Seminar

MATH REQUIREMENT
Take 6 credits from the MA-Mathematics Department.

ENGLISH REQUIREMENT

ENGLISH COMPOSITION
Take the following course:
FYC-101 First Year Composition

ENGLISH LITERATURE
Take 3 credits from the following courses:
EN-120 Forms of Literature
EN-122 Interpreting Pop Literature
EN-162 Women and Literature
EN-170 World Literatures
EN-188 Bad Literature
EN-207 Heaven or Hell on Earth
EN-211 Pennsylvania Literature
EN-212 Sports Literature
EN-213 Zombie Nation
EN-215 Boys Will Be Boys
EN-217 Disability in Fiction
EN-236 Dirty Books
EN-237 Constructing Identities
EN-239 Bloody Murder
EN-250 African American Literature
EN-251 Slave Narratives
EN-262 Unhappily Ever After
EN-301 Young Adult Literature
EN-302 Literature of Social Protest
EN-307 Mythology in Film
EN-312 Literature of Revenge
EN-313 Firing the Canon
EN-341 Shakespearean Drama
EN-385 Queer Literature
EN-388 Heroes and Villains
EN-392 Crossing the Border

CAPSTONE
Take the following courses:
ED-450 Student Teaching
ED-451 Student Teaching Seminar

POE Credit Total = 71

Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Early Childhood Education & Special Education (Bachelor of Science)

CORE COURSES
Take the following courses:
ED-110 Foundations of Education
ED-111 Foundations of Education Field Experience
ED-120 Child Development
ED-130 Adolescent Development
ED-240 Introduction to Students with Exceptionalities
ED-260 Families, Schools, and Communities
ED-304 Teaching for Social Justice
ED-309 Intro to Autism Spectrum Disorders
ED-312 Language and the Brain
ED-313 Language and Brain Lab
ED-314 English Language Learners
ED-342 Assessment Learners
ED-343 Differentiated Instruction
ED-350 Science Methods: Stem III
ED-403 Math Methods: PreK-6
ED-411 Reading Difficulties
ED-430 Language and Literacy
ED-433 Pre-Student Teaching Seminar
ED-440 High Incidence Disabilities
ED-441 Low Incidence Disabilities
ED-441F Low Incidence Disabilities Field Experience
ED-442 Social, Emotional, Behavior

MATH REQUIREMENT
Take 6 credits from the MA-Mathematics Department.

ENGLISH REQUIREMENT

ENGLISH COMPOSITION
Take one of the following courses:
FYC-101 First Year Composition

ENGLISH LITERATURE
Take 3 credits from the following courses:
EN-120 Forms of Literature
EN-122 Interpreting Pop Literature
EN-162 Women and Literature
EN-170 World Literatures
EN-188 Bad Literature
EN-207 Heaven or Hell on Earth
EN-211 Pennsylvania Literature
EN-212 Sports Literature
EN-213 Zombie Nation
EN-215 Boys Will Be Boys
EN-217 Disability in Fiction
EN-236 Dirty Books
EN-237 Constructing Identities
EN-239 Bloody Murder
EN-250 African American Literature
EN-251 Slave Narratives
EN-262 Unhappily Ever After
EN-301 Young Adult Literature
EN-302 Literature of Social Protest
EN-307 Mythology in Film
EN-312 Literature of Revenge
EN-313 Firing the Canon
EN-341 Shakespearean Drama
EN-385 Queer Literature
EN-388 Heroes and Villains
EN-392 Crossing the Border

CAPSTONE
Take the following courses:
ED-450 Student Teaching
ED-451 Student Teaching Seminar

POE Credit Total = 87
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Earth & Space Science Secondary Education (Bachelor of Science)

REQUIRED CORE COURSES
Take the following courses:
GL-100A Environmental Geology
GL-204 History of Earth
GL-210 Minerals
GL-240 Geological Field Methods I
GL-300 Petrography
GL-310 Structural Geology
GL-389 Geology Professional Seminar
MA-130 Calculus I
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab

Take one of the following courses:
AS-160 Measuring the Universe
AS-260 Observational Astronomy

ADDITIONAL CORE
Complete one of the following options below:
OPTION 1:
GL-126 Environmental Geochemistry

OPTION 2:

CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab

REQUIRED EDUCATION COURSES
Take the following courses:
ED-110 Foundations of Education
ED-111 Foundations of Education Field Experience
ED-130 Adolescent Development
ED-240 Introduction to Students with Exceptionalities
ED-314 English Language Learners
ED-341 Adaptations for Students with Exceptional Needs
ED-341F Adaptations for Students with Special Needs Field Experience
ED-419 Pre-Student Teaching Field Experience
ED-420 General Secondary Methods & Ethics in Education
ED-423 Secondary Education Field Trip

CAPSTONE
Take the following courses:
ED-450 Student Teaching
ED-451 Student Teaching Seminar

POE Credit Total = 76-78
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Ecology and Evolutionary Biology (Bachelor of Science)

BIOLOGY CORE
Take the following courses:
BI-101 General Biology I
BI-102 General Biology II
BI-289 Frontiers of Biology
BI-209 Cell & Molecular Biology

CHEMISTRY CORE
Take the following courses:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab
CH-232 Organic Chemistry I
CH-233 Organic Chemistry I Lab

PHYSICS CORE
Complete one of the following options below:
OPTION 1:
PC-200 General Physics I
PC-200L General Physics Lab I

OPTION 2:
PC-202 Intro Physics I
PC-202L Intro Physics Lab I

MATHEMATICS CORE
Take one of the following courses:
MA-205 Elementary Statistics
BI-305 Biostatistics

WRITING CORE
Take one of the following courses:
BI-314 Talk Nerdy to Me
BI-315 Grant Writing for STEM

ECOLOGY & EVOLUTION CORE
Take the following courses:
BI-339 Organic Evolution
BI-300 General Ecology
BI-301 General Ecology Lab

ELECTIVES
Take four of the following courses:
BI-312 Altered Ecosystems
BI-318 Developmental Biology
BI-316 Advanced Molecular and Cellular Biology
BI-317 Principles of Genetics
BI-323 Mammalogy
BI-324 Ornithology
BI-325 Plant Ecology
BI-326 Plant Ecology Lab
BI-327 Botany
BI-333 Plant Diversity
BI-350 Invertebrate Zoology
BI-351 Invertebrate Zoology Lab
BI-360 Vertebrate Zoology
BI-361 Vertebrate Zoology Lab
BI-362 Animal Behavior
BI-370 Herpetology
BI-380 Biology Research Methods
BI-384 Experiential Ecology
BI-400 Environmental Genomics
BI-405 Bioinformatics Fundamentals
BI-417 Reproductive Biology
BI-432 Environmental Toxicology
BI-437 Molecular Ecology
BI-489 Biology Research
ESS-325 Conservation Biology
ESS-328 Limnology

CAPSTONE
Take the following course:
ND-498 Natural Sciences Capstone

POE Credit Total = 56-60
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Economics (Bachelor of Science)

ECONOMICS CORE
Take the following courses:
EB-100 Introduction to Management
EB-10 International Economic Issues
EB-131 Financial Accounting
EB-202 Behavioral Analysis of Organizations
EB-236 Managerial Accounting
MA-130 Calculus I
MA-160 Linear Algebra
EB-222 Principles of Macroeconomics
EB-223 Principles of Microeconomics
EB-320 Intermediate Microeconomics
EB-321 Intermediate Macroeconomics
EB-381 International Political Economy
ESS-230 Environmetrics

Take one of the following courses:
EB-211 Business Statistics
MA-220 Introduction to Probability & Statistics

ELECTIVES
Take one of the following courses:
MA-210 Foundations of Mathematics
MA-230 Calculus II
MA-235 Calculus III
MA-303 Mathematical Modeling
MA-370 Real Analysis
ESS-305 Environmental Economics
EB-463 Financial Markets & Institutions
EB-465 Financial Theory and Analysis

UPPER-LEVEL ELECTIVES
Take three upper-level courses from the following:
MA-303 Mathematical Modeling
ESS-305 Environmental Economics
EB-463 Financial Markets & Institutions
EB-465 Financial Theory and Analysis
MA-370 Real Analysis

CAPSTONE
Take the following course:
EB-480 Senior Seminar

The Accounting, Business, and Economics (ABE) Department does not permit students in their department to pursue more than one ABE Program of Emphasis (POE). Students wishing to develop individualized POEs incorporating multiple ABE disciplines should consult with their POE Advisor for guidance.

POE Credit Total = 61-63
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Engineering Physics (Bachelor of Science)

MATHEMATICS CORE
Take the following courses:
MA-130 Calculus I
MA-160 Linear Algebra
MA-230 Calculus II
MA-235 Calculus III
MA-335 Differential Equations

COMPUTER SCIENCE CORE
Take the following course:
CS-110 Computer Science I

APPROVED 200+ LEVEL ELECTIVE
Take one of the following courses:
PC-217 Engineering Tools & CAD
PC-260 Intro to Materials Science & Engineering
PC-315 Nanoscience
CS-240 Computer Science II
CS-255C C++ Programming

CHEMISTRY CORE
Take the following courses:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab

PHYSICS CORE
Take the following courses:
PC-189 Physics Seminar
PC-202 Intro Physics I
PC-202L Intro Physics Lab I
PC-203 Intro Physics II
PC-203L Intro Physics Lab II
PC-209 Electronics
PC-301 Modern Physics
PC-302 Experimental Methods
PC-309 Research Methods
PC-320 Engineering Mechanics I: Statics
PC-321 Engineering Mechanics II: Dynamics

UPPER-LEVEL ELECTIVE
Take an additional 300/400 level Physics course:
PC-350 Thermal Physics
PC-402 Quantum Mechanics
PC-491 Electricity & Magnetism

CAPSTONE
Take one of the following courses:
AS-455 Astronomy Capstone
PC-455 Physics & Engineering Physics Capstone

POE Credit Total = 62-66
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

English (Bachelor of Arts)

CORE COURSES
Take the following courses:
EN-120 Forms of Literature
EN-122 Interpreting Pop Literature
EN-204 English Colloquium
EN-308 English Research Methods
EN-313 Firing the Canon

200-LEVEL COURSES
Take 12 credits from the following courses:
EN-200 History of the Language
EN-207 Heaven or Hell on Earth
EN-211 Pennsylvania Literature
EN-212 Sports Literature
EN-213 Zombie Nation
EN-215 Boys Will Be Boys
EN-217 Disability in Fiction
EN-236 Dirty Books
EN-237 Constructing Identities
EN-239 Bloody Murder
EN-251 Slave Narratives
EN-253 Literature of the Jazz Age
EN-262 Unhappily Ever After
EN-299 Special Topics

300-LEVEL COURSES
Take 12 credits from the following courses:
EN-300 Modern Theories of Grammar
EN-301 Young Adult Literature
EN-302 Literature of Social Protest
EN-307 Mythology in Film
EN-312 Literature of Revenge
EN-341 Shakespearean Drama
EN-385 Queer Literature
EN-392 Crossing the Border
EN-399 Special Topics

WRITING COURSES
Take one of the following courses:
EN-208 Explorations in Creative Writing
EN-247 Writing for Change
EN-272 Introduction to Professional Writing
EN-273 Visual Literacy
EN-299 Special Topics
EN-305 Fiction Writing
EN-306 Creative Nonfiction Writing
EN-311 Professional News and Feature Writing
EN-315 Technical Writing
EN-374 Ethical Game Design
EN-376 Writing Across Media
EN-378 Video Production Writing
EN-379 Professional Editing

INTERNSHIP/CAPSTONE
Complete one of the following options below: (NOTE: Instructor permission is required)

OPTION 1:
EN-490 English Internship
EN-495 Internship Seminar

OPTION 2:
EN-496 Senior Research Capstone

POE Credit Total = 45-46
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

English Secondary Education (Bachelor of Arts)

ENGLISH CORE
Take the following courses:
EN-120 Forms of Literature
EN-122 Interpreting Pop Literature
EN-170 World Literatures
EN-200 History of the Language
EN-204 English Colloquium
EN-341 Shakespearean Drama

AMERICAN LITERATURE COURSES
Take one of the following courses:
EN-211 Pennsylvania Literature
EN-238 Unnatural Acts
EN-239 Bloody Murder
EN-250 African American Literature
EN-251 Slave Narratives

EN-253 Literature of the Jazz Age

BRITISH LITERATURE COURSES
Take one of the following courses:
EN-258 Funny Pages
EN-262 Unhappily Ever After

WRITING COURSES
Take one of the following courses:
EN-247 Writing for Change
EN-272 Introduction to Professional Writing
EN-273 Visual Literacy
EN-305 Fiction Writing
EN-306 Creative Nonfiction Writing
EN-311 Professional News and Feature Writing
EN-315 Technical Writing
EN-378 Video Production Writing
EN-379 Professional Editing

LITERATURE COURSES
Take two of the following courses:
EN-162 Women and Literature
EN-188 Bad Literature
EN-207 Heaven or Hell on Earth
EN-212 Sports Literature
EN-213 Zombie Nation
EN-215 Boys Will Be Boys
EN-217 Disability in Fiction
EN-236 Dirty Books
EN-237 Constructing Identities
EN-301 Young Adult Literature
EN-302 Literature of Social Protest
EN-307 Mythology in Film
EN-312 Literature of Revenge
EN-313 Firing the Canon
EN-385 Queer Literature
EN-388 Heroes and Villains
EN-392 Crossing the Border

OTHER COURSES
Complete each category below:

COMMUNICATION
CM-200 Art of Public Speaking

MATHEMATICS
Complete six credits from the MA - Mathematics Department.

EDUCATION CORE
Take the following courses:
ED-110 Foundations of Education
ED-111 Foundations of Education Field Experience
ED-130 Adolescent Development
ED-240 Introduction to Students with Exceptionalities
ED-314 English Language Learners
ED-341 Adaptations for Students with Exceptional Needs
ED-341F Adaptations for Students with Special Needs Field Experience
ED-419 Pre-Student Teaching Field Experience
ED-420 General Secondary Methods & Ethics in Education

CAPSTONE
Take the following courses:
ED-450 Student Teaching
ED-451 Student Teaching Seminar

POE Credit Total = 79-85
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Entrepreneurship (Bachelor of Science)

ENTREPRENEURSHIP CORE
Take the following courses:
EB-100 Introduction to Management
EB-106 Foundations of Entrepreneurship
EB-105 International Economic Issues
IT-110 Principles of Information Technology
EB-131 Financial Accounting
EB-202 Behavioral Analysis of Organizations
EB-207 New Venture Creation
EB-236 Managerial Accounting
EB-307 New Venture Start-Ups
EB-341 Product and Operations Management
EB-351 Marketing Management
EB-361 Financial Management I
EB-371 Human Resource Management.
EB-407 Entrepreneurship

Take one of the following courses:
EB-210 Quantitative Business Analysis
MA-130 Calculus I

Take one of the following courses:
EB-222 Principles of Macroeconomics
EB-223Principles of Microeconomics

Take the following course:
EB-359 Advertising & Promo Mgmt

**The option of Junior Year or Semester Abroad is encouraged. Foreign exchange partner institutions are

likely to offer equivalent courses for EB-105, EB-210, EB-211, EB-222, EB-223, EB-341, EB-351, EB-361 and EB-371.

INTERNSHIPS ARE ALSO AVAILABLE
EB-001 Non-Credit Business Internship
EB-490 Business Internship
EB-495 Business Internship Seminar

CAPSTONE
Take the following course:
EB-480 Senior Seminar

The Accounting, Business, and Economics (ABE) Department does not permit students in their department to pursue more than one ABE Program of Emphasis (POE). Students wishing to develop individualized POEs incorporating multiple ABE disciplines should consult with their POE Advisor for guidance.

POE Credit Total = 62-63
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Environmental Chemistry (Bachelor of Science)

REQUIRED CORE COURSES
Complete one of the following options below:

OPTION 1:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab

OPTION 2: (AP score of 4 or 5 required or instructor permission).
CH-150 Accelerated General Chemistry I

INTRODUCTORY ENVIRONMENTAL SCIENCE COURSES
Take the following courses:
ESS-100 Environmental Systems I
ESS-110 Environmental Systems II

FOUNDATIONAL CHEMISTRY COURSES
Complete three subfields of Chemistry below (take the class and lab):
OPTION 1:
CH-222 Inorganic Chemistry

OPTION 2:
CH-232 Organic Chemistry I
CH-233 Organic Chemistry I Lab

OPTION 3:
CH-252 Analytical Chemistry

OPTION 4:
CH-312 Biochemistry
CH-317 Biochemistry Lab

OPTION 5:
CH-351 Biophysical Chemistry
CH-353 Physical Chemistry Laboratory

OPTION 6:
CH-353 Physical Chemistry Laboratory
CH-356 Thermodynamics & Chemical Kinetics

PHYSICS COURSES
Complete one of the following options below:
OPTION 1:
PC-200 General Physics I
PC-200L General Physics Lab I

OPTION 2:
PC-202 Intro Physics I
PC-202L Intro Physics Lab I

ENVIRONMENTAL SCIENCE COURSES
Take three of the following courses below:
ESS-310 Water Resources I
ESS-323 Aquatic Ecology
ESS-328 Limnology
ESS-330 Geographical Information Systems
ESS-335 Quantitative Ecology
ESS-365 Sustainable Development
ESS-410 Water Resources II
ESS-445 Fishery Science & Management

STATISTICS AND MATH COURSES
Take one of the following courses:
MA-130 Calculus I
MA-205 Elementary Statistics
MA-220 Introduction to Probability & Statistics
DS-110 Intro to Data Science
BI-305 Biostatistics
ESS-230 Environmetrics

ELECTIVE COURSES
Complete at least 12 credits from the following courses:

GL-100A Environmental Geology
GL-126 Environmental Geochemistry
GL-210 Minerals
GL-305 Hydrogeology
BI-101 General Biology I
BI-300 General Ecology
BI-432 Environmental Toxicology
CH-304 Pollutant Chemistry
CH-332 Organic Chemistry II
CH-360 Quantum Chemistry & Spectroscopy
CH-372 Instrumental Methods
CH-406 Advanced Inorganic Chemistry
CH-460 Biochemistry of Metabolism

CAPSTONE EXPERIENCE
Take the following courses:
CH-486 Chemical Sciences Capstone 1
CH-487 Chemical Sciences Capstone 2

POE Credit Total = 56-60
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Environmental Data Science (Bachelor of Science)

DATA SCIENCE CORE
Take the following courses:
DS-110 Intro to Data Science
DS-210 Data Acquisition
DS-242 Info Visualization
DS-375 Big Data
MA-130 Calculus I
MA-160 Linear Algebra
MA-321 Multivariate Statistics
MA-325 Statistical Consulting
CS-110 Computer Science I

Take one of the following courses:
CS-261 AI Fundamentals
DS-352 Machine Learning

ENVIRONMENTAL & EARTH SCIENCE ANALYTICS
Take the following courses:
BI-101 General Biology I
ESS-100 Environmental Systems I
ESS-230 Environmetrics
ESS-330 Geographical Information Systems
ESS-335 Quantitative Ecology
ESS-445 Fishery Science & Management

CAPSTONE
DS-420 Data Science Capstone

POE Credit Total = 55
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Environmental Economics (Bachelor of Science)

ESS CORE COURSES
Take the following courses:
ESS-100 Environmental Systems I
GL-100 Intro to Physical Geology
ESS-305 Environmental Economics
ESS-230 Environmetrics
ESS-310 Water Resources I
ESS-337 Environmental Law

Take one of the following courses:
ESS-224 Wildlife Mgmt
ESS-324 Natural Resource Management

ECONOMICS COURSES
Take the following courses:
EB-105 International Economic Issues
EB-222 Principles of Macroeconomics
EB-223 Principles of Microeconomics
EB-381 International Political Economy

Take one of the following courses:
EB-463 Financial Markets & Institutions
EB-465 Financial Theory and Analysis

POLICY AND DECISION SCIENCE
Take the following courses:
PS-101 Introduction to U.S. Government
PY-101 Introduction to Psychology
PY-304 Cognitive Psychology
PY-403 Judgment & Decision Making

MATH CORE
Take three of the following courses:
MA-130 Calculus I
MA-160 Linear Algebra
MA-303 Mathematical Modeling
ESS-309 Econometrics

CAPSTONE
Take one of the following courses:
ESS-400 Senior Capstone I
ESS-401 Senior Capstone II

POE Credit Total = 61-62
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Environmental Engineering (Bachelor of Science)

CORE SCIENCE COURSES
Take the following courses:
ESS-100 Environmental Systems I
BI-101 General Biology I
GL-100A Environmental Geology
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
PC-202 Intro Physics I
PC-202L Intro Physics Lab I

Complete one of the following options below: (GL-126 or CH-144/CH-145)

OPTION 1:
GL-126 Environmental Geochemistry

OPTION 2:
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab

CORE MATHEMATICS COURSES
Take the following courses:
MA-130 Calculus I
MA-230 Calculus II
MA-235 Calculus III
MA-335 Differential Equations

CORE ENGINEERING COURSES
Take the following courses:
CEE-101 Intro to Civil & Environmental Engineering
CEE-310 Hydrology
CEE-312 Fluid Mechanics
CEE-200 Fundamentals of Environmental Engineering
CEE-230 Applied Engineering Data Analytics
GL-305 Hydrogeology
CEE-318 Environmental Water Quality
ESS-330 Geographical Information Systems
CEE-419 Water/Wastewater Treatment
CEE-410 Open Channel Flow
ESS-337 Environmental Law
ESS-305 Environmental Economics

UPPER-LEVEL ELECTIVE

Complete two of the following courses below:
(substitutions must be approved by the CEE Department Chair)
CEE-315 Environmental Sustainability
ESS-365 Sustainable Development
GL-310 Structural Geology
ESS-328 Limnology
CEE-450 Civil & Environmental Engineering Research

CAPSTONE
Take the following courses:
CEE-400 Structural Analysis
CEE-401 Civil & Environ Engineering Capstone

POE Credit Total = 85-86
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Environmental Geology (Bachelor of Science)

REQUIRED COURSES
Take the following courses:
ESS-100 Environmental Systems I
ESS-110 Environmental Systems II
GL-100A Environmental Geology
GL-204 History of Earth
GL-310 Structural Geology
GL-389 Geology Professional Seminar
GL-240 Geological Field Methods I
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab

Complete one of the following options below:

OPTION 1:
GL-126 Environmental Geochemistry

OPTION 2:
CH-145 Integrated Chemistry Principles II Lab
CH-144 Integrated Chemistry Principles II

SOCIETAL IMPACTS REQUIREMENT
Take two of the following courses:
GL-111 Oceanography
GL-172 Geology of National Parks
ESS-337 Environmental Law
CONN-314 Global Climate Change
CONN-331 Battlefield Detectives

QUANTITATIVE REQUIREMENT
Take one of the following courses:

BI-305 Biostatistics
ESS-230 Environmetrics
MA-130 Calculus I
MA-220 Introduction to Probability & Statistics

DEPTH REQUIREMENT
Take five of the following courses:
PC-202 Intro Physics I
PC-202L Intro Physics Lab I
PC-211 Environmental Physics
PC-211L Environmental Physics Lab
GL-210 Minerals
GL-304 Paleobiology of Invertebrates
GL-305 Hydrogeology
ESS-301 Environmental Methods
ESS-310 Water Resources I
ESS-324 Natural Resource Management
ESS-330 Geographical Information Systems
GL-401 Sedimentology
GL-405 Principles of Stratigraphy
GL-450 Geological Research

CAPSTONE EXPERIENCE
Take one of the following courses:
GL-405 Principles of Stratigraphy
GL-440 Geological Field Methods II
GL-450 Geological Research

POE Credit Total = 48-59
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Environmental Science (Bachelor of Science)

ENVIRONMENTAL SCIENCE CORE
Take the following courses:
ESS-100 Environmental Systems I
ESS-110 Environmental Systems II
ESS-310 Water Resources I

Take one of the following courses:
ESS-301 Environmental Methods
ESS-365 Sustainable Development
ESS-410 Water Resources II

Take one of the following courses:
ESS-325 Conservation Biology
ESS-324 Natural Resource Management
ESS-445 Fishery Science & Management

CHEMISTRY REQUIREMENT
Complete one of the following options below:

OPTION 1:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab
OPTION 2:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
GL-126 Environmental Geochemistry

BIOLOGY REQUIREMENT
Complete one of the following options below:

OPTION 1:
BI-101 General Biology I
BI-300 General Ecology
BI-301 General Ecology Lab

OPTION 2:
BI-101 General Biology I
BI-325 Plant Ecology
BI-326 Plant Ecology Lab

MATH - STATISTICS
Take the following course:
ESS-230 Environmetrics

Take one of the following courses:
BI-305 Biostatistics
ESS-335 Quantitative Ecology
MA-130 Calculus I
MA-205 Elementary Statistics

ADVANCED ELECTIVES
Complete at least 16 credits from the following courses. NOTE: Some 200-level courses may be taken with advisor approval.
ESS-301 Environmental Methods
ESS-305 Environmental Economics
ESS-324 Natural Resource Management
ESS-325 Conservation Biology
ESS-328 Limnology
ESS-330 Geographical Information Systems
ESS-337 Environmental Law
ESS-340 Forestry
ESS-345 Ichthyology
ESS-346 Freshwater Invertebrates
ESS-361 Field Methods in Marine Systems
ESS-362 Island Ecosystems
ESS-363 Upland Process and Estuaries
ESS-364 Culture, Class and Gender

ESS-377 GIS Advanced Topic
ESS-380 Sense of Place Seminar
ESS-410 Water Resources II
ESS-445 Fishery Science & Management
BI-305 Biostatistics
BI-324 Ornithology
BI-327 Botany
BI-350 Invertebrate Zoology
BI-351 Invertebrate Zoology Lab
BI-360 Vertebrate Zoology
BI-361 Vertebrate Zoology Lab
BI-370 Herpetology
BI-432 Environmental Toxicology

CAPSTONE
Take one of the following courses:
ESS-400 Senior Capstone I
ESS-401 Senior Capstone II

POE Credit Total = 57-59
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Environmental Studies (Bachelor of Science)

ENVIRONMENTAL STUDIES CORE
Take the following courses:
ESS-100 Environmental Systems I
ESS-110 Environmental Systems II
ESS-206 Global Environmental Issues
ESS-224 Wildlife Mgmt
ESS-305 Environmental Economics
ESS-324 Natural Resource Management
ESS-337 Environmental Law

OTHER SCIENCE PREREQUISITES
Take one of the following courses:
BI-101 General Biology I
GL-100A Environmental Geology

ENVIRONMENTAL ANALYSIS
Take the following courses:
ESS-230 Environmetrics
ESS-310 Water Resources I
ESS-330 Geographical Information Systems

COURSES FROM ALLIED FIELD
Students must take one introductory course from two different allied fields: two elective courses in a focal area or concentration. NOTE: Allied fields include PACS, Politics, History, Business, Economics, Sociology, Gender Studies, IS, Psychology, or a language.

CAPSTONE
Take one of the following courses:
ESS-400 Senior Capstone I
ESS-401 Senior Capstone II

**Environmental Studies Students are strongly advised to take a Secondary Emphasis in an allied field.

The ESS Department also offers resident programs at the Raystown Field Station and a Marine Science Program in India. Courses taken in these programs as well as other programs may substitute directly into your POE. Students interested in these programs should work with their advisors to plan accordingly.

POE Credit Total = 43-44
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Exercise Science and Kinesiology (Bachelor of Science)

EXERCISE SCIENCE & KINESIOLOGY
Take the following courses:
ESK-101 Introduction to Exercise Science
BI-118 Human Anatomy & Physiology I
BI-119 Human Anatomy & Physiology II
ESK-206 Musculoskeletal Anatomy
ESK-303 Motor Learning & Control
ESK-310 Exercise Physiology
ESK-312 Strength & Conditioning
ESK-340 Biomechanics
ESK-430 Exercise Testing & Prescription

BIOLOGY
Take the following course:
BI-290 Nutrition

STATISTICS
Take one of the following courses:
MA-205 Elementary Statistics
MA-220 Introduction to Probability & Statistics
BI-305 Biostatistics

PSYCHOLOGY
Take the following course:
PY-101 Introduction to Psychology

Take one of the following courses:
PY-321 Health Psychology
PY-322 Sport Psychology

CONCENTRATIONS
In addition to the CORE courses, students must complete one of the following concentrations:

HEALTH PROFESSIONS/SCIENCE CONCENTRATION
Complete 12 credits from the following courses:
BI-101 General Biology I
BI-102 General Biology II
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab
CH-232 Organic Chemistry I
CH-233 Organic Chemistry I Lab
PC-200 General Physics I
PC-200L General Physics Lab I
PC-201 General Physics II
PC-201L General Physics Lab II

BUSINESS/ENTREPRENEUR CONCENTRATION
Take four of the following courses:
EB-100 Introduction to Management
EB-106 Foundations of Entrepreneurship
EB-131 Financial Accounting
EB-202 Behavioral Analysis of Organizations
EB-351 Marketing Management

BEHAVIORAL/SOCIAL SCIENCES CONCENTRATION
Take four of the following courses:
SO-101 Introduction to Sociology
PY-203 Abnormal Psychology
PY-350 Developmental Psychology
PY-321 Health Psychology
PY-322 Sport Psychology
SW-221 The Life Cycle

CAPSTONE
ESK-498 Practicum Capstone

POE Credit Total = 56-63
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Finance (Bachelor of Science)

FINANCE CORE
Take the following courses:
EB-100 Introduction to Management
EB-105 International Economic Issues
EB-131 Financial Accounting
EB-202 Behavioral Analysis of Organizations
EB-232 Intermediate Accounting I
EB-233 Intermediate Accounting II
EB-236 Managerial Accounting
EB-211 Business Statistics
EB-222 Principles of Macroeconomics
EB-223 Principles of Microeconomics
EB-342 Management Information Systems
EB-351 Marketing Management
EB-361 Financial Management I
EB-362 Financial Management II

Take one of the following courses:
EB-463 Financial Markets & Institutions
EB-46 Financial Theory and Analysis

Take one of the following courses:
EB-210 Quantitative Business Analysis
MA-130 Calculus I

The option of Junior Year or Semester Abroad is encouraged. Foreign exchange partner institutions are likely to offer equivalent courses for EB-222, EB-223, EB-351, EB-361, and EB-362.

INTERNSHIPS ARE ALSO AVAILABLE
EB-001 Non-Credit Business Internship
EB-490 Business Internship
EB-495 Business Internship Seminar

CAPSTONE
Take the following course:
EB-480 Senior Seminar

The Accounting, Business, and Economics (ABE) Department does not permit students in their department to pursue more than one ABE Program of Emphasis (POE). Students wishing to develop individualized POEs incorporating multiple ABE disciplines should consult with their POE Advisor for guidance.

POE Credit Total = 58-59
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Fisheries & Aquatic Sciences (Bachelor of Science)

CORE COURSES

Take the following courses:
ESS-100 Environmental Systems I
ESS-110 Environmental Systems II
BI-101 General Biology I
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
ESS-230 Environmetrics
ESS-310 Water Resources I
ESS-330 Geographical Information Systems
ESS-337 Environmental Law
ESS-345 Ichthyology
ESS-445 Fishery Science & Management

FISHERIES AND AQUATIC SCIENCE
Take one of the following courses:
ESS-328 Limnology
ESS-346 Freshwater Invertebrates

ADDITIONAL BIOLOGICAL SCIENCE
Complete one of the following options below or another approved 4-credit Biological Science course (approval requires a Course Exception Form):

OPTION 1:
BI-102 General Biology II

OPTION 2:
BI-300 General Ecology
BI-301 General Ecology Lab

OPTION 3:
BI-312 Altered Ecosystems

OPTION 4:
BI-360 Vertebrate Zoology
BI-361 Vertebrate Zoology Lab

OPTION 5:
BI-362 Animal Behavior

PHYSICAL SCIENCES
Complete the following courses, or complete 8 credits of other approved 4-credit Physical Science courses (approval requires a Course Exception Form):
CEE-310 Hydrology
CEE-318 Environmental Water Quality

MATH AND STATISTICS
Take 4 credits from the following courses:
ESS-335 Quantitative Ecology
BI-305 Biostatistics
MA-205 Elementary Statistics
MA-220 Introduction to Probability & Statistics

HUMAN DIMENSIONS AND POLICY
Take 3 credits from the following courses:
ESS-206 Global Environmental Issues
ESS-305 Environmental Economics
ESS-324 Natural Resource Management
ESS-380 Sense of Place Seminar
CONN-312 Science and Society

CAPSTONE
Take one of the following courses:
ESS-400 Senior Capstone I
ESS-401 Senior Capstone II

POE Credit Total = 62
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

General Science (Bachelor of Science)

BIOLOGY CORE
Take the following courses:
BI-101 General Biology I
BI-300 General Ecology

CHEMISTRY CORE
Take the following courses:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab

ENVIRONMENTAL SCIENCE - GEOLOGY
Take the following courses:
ESS-100 Environmental Systems I
ESS-110 Environmental Systems II
GL-100A Environmental Geology
ESS-310 Water Resources I
ESS-261 Marine Biology I

MATHEMATICS CORE
Take one of the following courses:
MA-103 Quantitative Methods
ESS-230 Environmetrics
BI-305 Biostatistics

PHYSICS CORE
Take the following courses:
PC-120 Astronomy
PC-200 General Physics I
PC-200L General Physics Lab I

ADDITIONAL COURSES
Take four courses from the BI - Biology, CH - Chemistry, PC - Physics or ESS - Environmental Science/Studies departments at the 200, 300 or 400 level. NOTE: At least two courses must be at the 300/400 level.

CAPSTONE
Take the following course:
ND-498 Natural Sciences Capstone

POE Credit Total = 54-55
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

General Science and Secondary Education (Bachelor of Science)

BIOLOGY CORE
Take the following courses:
BI-101 General Biology I
BI-300 General Ecology
BI-301 General Ecology Lab

CHEMISTRY CORE
Take the following courses:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab

ENVIRONMENTAL SCIENCE - GEOLOGY
Take the following courses:
ESS-100 Environmental Systems I
ESS-110 Environmental Systems II
GL-100A Environmental Geology
ESS-310 Water Resources I
ESS-261 Marine Biology I

MATHEMATICS CORE
Take one of the following courses:
MA-103 Quantitative Methods
ESS-230 Environmetrics
BI-305 Biostatistics

PHYSICS CORE
Take one of the following courses:
AS-160 Measuring the Universe
AS-260 Observational Astronomy

Take the following courses:
PC-200 General Physics I
PC-200L General Physics Lab I

ADDITIONAL COURSES
Take four courses (minimum of 12 credits) from the BI - Biology, CH - Chemistry, PC - Physics or ESS - Environmental Science/Studies departments at the 200, 300 or 400 level. NOTE: At least two courses must be at the 300/400 level.

EDUCATION CORE
Take the following courses:
ED-110 Foundations of Education
ED-111 Foundations of Education Field Experience
ED-130 Adolescent Development
ED-240 Introduction to Students with Exceptionalities
ED-314 English Language Learners
ED-341 Adaptations for Students with Exceptional Needs
ED-341F Adaptations for Students with Special Needs Field Experience
ED-419 Pre-Student Teaching Field Experience
ED-420 General Secondary Methods & Ethics in Education
ED-423 Secondary Education Field Trip

CAPSTONE
Take the following courses:
ED-450 Student Teaching
ED-451 Student Teaching Seminar

POE Credit Total = 91-92
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Genomics & Bioinformatics (Bachelor of Science)

BIOLOGY CORE
Take the following courses:
BI-101 General Biology I
BI-102 General Biology II
BI-209 Cell & Molecular Biology
BI-289 Frontiers of Biology
BI-317 Principles of Genetics

CHEMISTRY CORE
Take the following courses:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab
CH-232 Organic Chemistry I
CH-233 Organic Chemistry I Lab

MATHEMATICS CORE
Take one of the following courses:
MA-205 Elementary Statistics
BI-305 Biostatistics

WRITING CORE
Take one of the following courses:
BI-314 Talk Nerdy to Me
BI-315 Grant Writing for STEM

GENOMICS CORE
Take the following courses:
CS-110 Computer Science I
BI-470 Practical Genomics
BI-405 Bioinformatics Fundamentals

ELECTIVES
Take three of the following courses:
BI-316 Advanced Molecular and Cellular Biology
BI-331 Molecular Microbiology
BI-332 Molecular Microbiology Lab
BI-400 Environmental Genomics
BI-437 Molecular Ecology
BI-471 Applied Bioinformatics
BI-472 Biotechnology
BI-481 Medical Genomics Research Methods
BI-489 Biology Research
CS-240 Computer Science II
CS-255U Unix Programming
CS-255Y Python Programming
DS-110 Intro to Data Science

CAPSTONE
Take the following course:
ND-498 Natural Sciences Capstone

POE Credit Total = 55-58
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Geology (Bachelor of Science)

GEOLOGY CORE COURSES
Take the following courses:
GL-100A Environmental Geology
GL-204 History of Earth
GL-210 Minerals
GL-300 Petrography
GL-310 Structural Geology
GL-389 Geology Professional Seminar
GL-240 Geological Field Methods I
MA-130 Calculus I

CHEMISTRY REQUIREMENT
Complete one of the following options below:

OPTION 1:
GL-126 Environmental Geochemistry
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab

OPTION 2:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab

ADVANCED ELECTIVES
Take 12 credits from the following courses: (Students cannot count more than 6 credits of GL-450 towards the Geology POE)
GL-305 Hydrogeology
GL-304 Paleobiology of Invertebrates
GL-307 Geophysics
GL-401 Sedimentology
GL-405 Principles of Stratigraphy
GL-450 Geological Research
MA-230 Calculus II
PC-211 Environmental Physics
PC-211L Environmental Physics Lab
PC-200 General Physics I
PC-200L General Physics Lab I
PC-201 General Physics II
PC-201L General Physics Lab II
BI-305 Biostatistics
MA-220 Introduction to Probability & Statistics

CAPSTONE
Students must complete GL-405, GL-440 or GL-450 as a capstone experience. Completion of a second capstone course may be applied towards the Advanced Electives requirement.
GL-405 Principles of Stratigraphy
GL-450 Geological Research
GL-440 Geological Field Methods II

NOTE: Students with Geology POEs must include at least 21 credit hours at the 300/400 level from the lists above. Curricular substitutions: PC 202/PC 203 may substitute for PC 200/PC 201

POE Credit Total = 49-51

Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Healthcare Administration (Bachelor of Science)

HEALTHCARE ADMINISTRATION CORE
Take the following courses:
EB-131 Financial Accounting
EB-100 Introduction to Management
EB-202 Behavioral Analysis of Organizations
EB-211 Business Statistics
EB-223 Principles of Microeconomics
EB-236 Managerial Accounting
EB-325 Health Economics
EB-351 Marketing Management
EB-363 Health Care Financial Management
EB-490 Business Internship
EB-49 Business Internship Seminar
PL-235 Ethics of Health Care
PY-101 Introduction to Psychology
BI-190 Human Biology

Take one of the following courses:
EB-203 Introduction to Business Law
EB-204 Legal Regulation of Business

Take one of the following courses:
PY-321 Health Psychology
PY-411 Psychology and the Law

Take two of the following courses:
BI-270 Infectious Disease & Society
HS-313 Disease, Medicine & Empire
HS-314 Medieval Medicine
RU-299 Special Topics
PL-250 Science and Human Values
PY-302 Moral Judgment

CAPSTONE
Take the following course:
EB-480 Senior Seminar

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POE Credit Total = 58-59

Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Health Communication (Bachelor of Arts)

COMMUNICATION CORE
Take the following courses:
CM-131 Interpersonal Communication
CM-132 Message Analysis
CM-133 Mass Media and Society
CM-200 Art of Public Speaking
CM-401 Senior Seminar

HEALTH COMMUNICATION CORE
Take the following courses:
SO-101 Introduction to Sociology
PY-101 Introduction to Psychology
CM-220 Group Communication
HP-235 Medical Terminology
CM-241 Introduction to Media Practice
CM-288 Strategic Communication
CM-310 Understanding Health Inequity
CM-400A Health Communication

ELECTIVE OPTIONS
Take 12 credits from the following courses:
CM-241 Introduction to Media Practice
CM-300 Professional Presentations
CM-340 Intercultural Communication
CM-342 Documentary History & Theory
CM-363 Digital Video Production I
CM-365 Organizational Communication
CM-388 Public Communication Campaigns
CM-420E Digital Storytelling
CM-488 Crisis and Risk Communication
CM-498 Senior Thesis Research
EN-315 Technical Writing
EN-376 Writing Across Media
PY-321 Health Psychology

CAPSTONE
Complete one of the following options below (a minimum of 4 credits):

OPTION 1:
CM-490 Communication Internship
CM-495 Communication Internship Research

OPTION 2:
CM-497 Senior Thesis Seminar

POE Credit Total = 56
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Historical Archaeology (Bachelor of Arts)

CORE COURSES
Take the following courses:
AN-151 Introduction to Anthropology
AN-199 Anthropology Special Topics
AN-254 Archaeology & Human Prehistory
AN-255 Applied Archaeology
AN-299 Anthropology Special Topics
AN-353 Archaeological Fieldwork
HS-493 The Historian's Craft

HISTORY ELECTIVES
Take 5 of the following courses (17-20 credits):
HS-104 Medieval Europe
HS-115 United States to 1877
HS-116 The U.S. Since 1877
HS-152 World History Since 1450
HS-200 The Great War
HS-208 Engineering, Empire, and the Environment
HS-213 History of Ireland
HS-215 Rome: Republic to Empire
HS-262 North American Environmental History
HS-268 Sword & Scimitar: Islam & West 500-1300
HS-272 Natives & Colonists in Early N. America
HS-277 History of Food
HS-293 Sophomore Colloquium
HS-309 Civil War and Reconstruction
HS-312 The New South: 1877-1990
HS-317 Medicine in World War I
HS-319 Glorious Cause: American Revolutionary Era
HS-322 Women in Medieval Life

HISTORICAL ARCHAEOLOGY CONCENTRATIONS
Complete one of the following concentrations below:

GEOLOGY CONCENTRATION:
Take 12 credits from the following courses:
CONN-331 Battlefield Detectives
ESS-330 Geographical Information Systems
GL-100 Intro to Physical Geology
GL-100A Environmental Geology
GL-101 Physical Geology Lab
GL-123 Expedition: Earth
GL-126 Environmental Geochemistry
GL-130 Introduction to Soils
GL-204 History of Earth
GL-210 Minerals
GL-240 Geological Field Methods I
GL-300 Petrography
GL-305 Hydrogeology
GL-307 Geophysics
GL-325 Intro to Soil Science
GL-350 Geol. Research Methodologies

MUSEUM STUDIES CONCENTRATION:
Take 12 credits from the following courses:
AH-303 Reframing American Art to 1876
AH-304 Reframing American Art from 1876
AH-311 Art of Ancient Peoples
CONN-394 Curating Art, History & Science
MM-290 Cze Castle Collections I
MM-291 Cze Castle Collections II
MM-391 Ethics and Museums
MM-393 Cultural Institutions & Community Audiences
MM-480 Museum Practicum I
MM-481 Museum Practicum II

APPLIED COMPUTER SCIENCE CONCENTRATION:
Take 12 credits from the following courses:
CS-110 Computer Science I
CS-220 Computer Organization
CS-240 Computer Science II
CS-255U Unix Programming
CS-300 Software Engineering
CS-341 Scientific Computing
CS-370 Database Management Systems
DS-110 Intro to Data Science
DS-210 Data Acquisition
DS-352 Machine Learning
DS-375 Big Data
IT-210 Information Technology Systems
DS-242 Info Visualization

CAPSTONE
Complete one of the following options below:

OPTION 1:
Take the following course:
AN-353 Archaeological Fieldwork

OPTION 2:
Take the following course:
AN-450 Archaeological Laboratory Research

OPTION 3:
Take both of the following courses:
AN-490 Internship/Need Paperwork
AN-495 Internship Seminar

POE Credit Total = 48-56

Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

History (Bachelor of Arts)

HISTORY CORE
Take five History courses at the 100-200 level:
HS-104 Medieval Europe
HS-115 United States to 1877
HS-116 The U.S. Since 1877
HS-152 World History Since 1450
HS-199 Special Topics
HS-200 The Great War
HS-204 Australia/New Zealand
HS-208 Engineering, Empire, and the Environment
HS-213 History of Ireland
HS-215 Rome: Republic to Empire
HS-216 Civil Rights & Song
HS-217 The Lowcountry and the Gullah Culture
HS-262 North American Environmental History
HS-266 History of South Africa
HS-268 Sword & Scimitar: Islam & West 500-1300
HS-272 Natives & Colonists in Early N. America
HS-277 History of Food
HS-280 Victorian Science, Sexuality & Medicine
HS-299 Special Topics

HISTORY COLLOQUIUM
Take the following course:
HS-293 Sophomore Colloquium

UPPER-LEVEL HISTORY ELECTIVES
Take five History courses at the 300-400 level:
HS-309 Civil War and Reconstruction
HS-312 The New South: 1877-1990
HS-313 Disease, Medicine & Empire
HS-314 Medieval Medicine
HS-317 Medicine in World War I
HS-319 Glorious Cause: American Revolutionary Era
HS-320 Interpreting Terrorism
HS-322 Women in Medieval Life
HS-325 The U.S. Since 1945
HS-363 Race, Power, and Gender in Southern Africa
HS-399 Special Topics
HS-490 History Internship
HS-495 Senior History Research/Seminar
HS-496 Senior History Research/Seminar II
HS-499 Special Topics

CAPSTONE
Take the following courses:
HS-492 Sr History Research/Seminar I
HS-493 The Historian's Craft

POE Credit Total = 48-51
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

History & Museum Studies (Bachelor of Arts)

HISTORY CORE
Take the following courses:
HS-115 United States to 1877
HS-116 The U.S. Since 1877
HS-293 Sophomore Colloquium
HS-495 Senior History Research/Seminar

HISTORY ELECTIVES
Take two 300/400 level History electives.

MUSEUM STUDIES CORE
Take the following courses:
AH-108 Cross Cultural Art 1
MM-391 Ethics and Museums
MM-393 Cultural Institutions & Community Audiences
CONN-394 Curating Art, History & Science
MM-482 Practical Skills in 3-D Storytelling I
MM-483 Practical Skills in 3-D Storytelling II

ASSOCIATED COURSES
Take one of the following Visual Arts courses:
AR-103 Beginning Drawing
AR-104 Design and Color
AR-117 Intro to Sculpture
AR-125 Explorations in Clay
AR-175 Introduction to Nature Photography
AR-200 Beginning Painting
AR-202 Water-Based Media Painting
AR-203 Digital Photography I
AR-204 Digital Art I
AR-208 Beginning Photography
AR-211 The Art of Bookmaking
AR-215 Ceramic Sculpture
AR-220 Formulating Beauty: Ceramic Chemistry
AR-225 Wheel Throwing
AR-298 Mixed Media Animation
AR-300 Intermediate Painting
AR-305 Intermediate Ceramics
AR-308 Intermediate Photography

Take one of the following ABE courses:
EB-100 Introduction to Management
EB-105 International Economic Issues

EB-131 Financial Accounting
EB-202 Behavioral Analysis of Organizations
EB-203 Introduction to Business Law
EB-210 Quantitative Business Analysis
EB-211 Business Statistics
EB-223 Principles of Microeconomics
EB-332 Corporate Taxation
EB-341 Product and Operations Management
EB-342 Management Information Systems
EB-351 Marketing Management
EB-356 Fashion Marketing Management
EB-359 Advertising & Promo Mgmt
EB-361 Financial Management I
EB-371 Human Resource Management.
EB-375 21st Century Leadership
EB-379 Bargaining and Conflict Management

INTERNSHIP
Complete one of the following internship options below:

OPTION 1:
Take the following courses:
HS-490 History Internship
HS-495 Senior History Research/Seminar

OPTION 2:
Take HS-001 as a non-credit transcript notation. NOTE: A second internship is strongly recommended.
HS-001 Non-Credit History Internship

CAPSTONE
Take the following courses:
HS-492 Sr History Research/Seminar I
HS-493 The Historian's Craft

POE Credit Total = 51-56
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Human Resource Management (Bachelor of Science)

HUMAN RESOURCE MANAGEMENT CORE
Take the following courses:
EB-100 Introduction to Management
EB-105 International Economic Issues
EB-131 Financial Accounting
EB-202 Behavioral Analysis of Organizations
EB-204 Legal Regulation of Business
EB-211 Business Statistics
EB-223 Principles of Microeconomics
EB-236 Managerial Accounting
EB-341 Product and Operations Management
EB-351 Marketing Management
EB-361 Financial Management I
EB-371 Human Resource Management.
EB-379 Bargaining and Conflict Management

Take one of the following courses:
EB-210 Quantitative Business Analysis
MA-130 Calculus I

ADDITIONAL COURSES
Take 9 credits from one of the three categories listed below:

PSYCHOLOGY
PY-101 Introduction to Psychology
PY-205 Social Psychology
PY-303 Learning & Conditioning
PY-304 Cognitive Psychology

COMMUNICATION
CM-131 Interpersonal Communication
CM-340 Intercultural Communication
CM-405A Women, Work & Identity

PEACE & CONFLICT STUDIES
PACS-105 Introduction to Conflict Resolution
PACS-108 Mediation
PACS-305 Gender and Conflict

CAPSTONE
Take the following course:
EB-480 Senior Seminar

NOTE: The option of Junior Year or Semester Abroad is encouraged. Foreign exchange partner institutions are likely to offer equivalent courses for EB-223, EB-341, EB-351, EB-361, and EB-371. Internships are also available.
EB-001 Non-Credit Business Internship
EB-490 Business Internship
EB-495 Business Internship Seminar

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POE Credit Total = 56-57
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Information Technology (Bachelor of Science)

INFORMATION TECHNOLOGY CORE I
Take the following courses:
IT-110 Principles of Information Technology
MA-116 Discrete Structures
CS-110 Computer Science I
IT-210 Information Technology Systems
CS-240 Computer Science II
CS-300 Software Engineering
IT-325 Network Design & Management.
CS-370 Database Management Systems
IT-350 Security Engineering
CM-200 Art of Public Speaking
IT-380 Innovations for Industry II
IT-480 Innovations for Industry III
CM-290 The Metaverse

Take one of the following courses:
CM-300 Professional Presentations
EN-315 Technical Writing

BUSINESS CORE
Take 3 credits from the EB - Accounting, Business & Economics Department. (EB-202: Behavioral Analysis of Organizations is recommended)

INFORMATION TECHNOLOGY CORE II
Complete one of the following options below:

OPTION 1:
Take the following course:
IT-340 Web Design & Management

OPTION 2:
Take the following courses:
IT-260 Human Computer Interaction
DS-242Info Visualization

UPPER-LEVEL IT/CS ELECTIVE
Complete one of the following options below:

OPTION 1:
Take the following course:
ESS-330 Geographical Information Systems

OPTION 2:
Take an additional 300 or 400 level IT/CS course.

OPTION 3:
Take the following courses:
IT-260 Human Computer Interaction
DS-242 Info Visualization

CAPSTONE
Take the following courses:
IT-307 Project Management

POE Credit Total = 62
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

International Business (Bachelor of Science)

INTERNATIONAL BUSINESS CORE
Take the following courses. (NOTE: Study abroad equivalents may be accepted for EB-351, EB-361 or EB-381):
EB-100 Introduction to Management
EB-105 International Economic Issues
EB-131 Financial Accounting
EB-202 Behavioral Analysis of Organizations
EB-211 Business Statistics
EB-222 Principles of Macroeconomics
EB-223 Principles of Microeconomics
EB-236 Managerial Accounting
EB-351 Marketing Management
EB-361 Financial Management I
EB-381 International Political Economy
EB-463 Financial Markets & Institutions

Take one of the following courses below:
EB-203 Introduction to Business Law
EB-204 Legal Regulation of Business

ADDITIONAL COURSES
Take the following courses:
PS-102 Introduction to International Politics
(AND)
An additional course from the EB Department at the 300/400 level.

SECOND LANGUAGE/GLOBAL ENGAGEMENT
Complete one of the following requirements below:
(NOTE: Global Engagement or Second Language courses may be taken while studying abroad)

SECOND LANGUAGE

Complete 3 foreign language courses (with prefix FR, GR, RU, SP, CN) at the 300 or 400 level.

GLOBAL ENGAGEMENT
Complete 3 courses with a Global Engagement designation.

STUDY ABROAD
Students are required to spend at least one semester abroad (12-15 credits), but preferably a full academic year.
Students are encouraged to take any of the "immersion" courses offered at our exchange partner institutions.
Study abroad is waived for International Students studying at Juniata.

CAPSTONE
Take the following course:
EB-480 Senior Seminar

The Accounting, Business, and Economics (ABE) Department does not permit students in their department to pursue more than one ABE Program of Emphasis (POE). Students wishing to develop individualized POEs incorporating multiple ABE disciplines should consult with their POE Advisor for guidance.

POE Credit Total = 60
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

International Politics (Bachelor of Arts)

INTERNATIONAL POLITICS CORE
Take the following courses:
PS-101 Introduction to U.S. Government
PS-102 Introduction to International Politics

Take one of the following courses:
PS-221 American Political Thought
PS-222 Western Political Thought

INTERNATIONAL POLITICS
Complete one of the following options below: (PS-389, PS-199, PS-299 or PS-399 may fulfill requirement depending on specific topic of course.)

OPTION 1:
Take one of the following courses:
PS-241 European Politics
PS-243 U.S. Foreign Policy
PS-291 Mexican Fulbright Special Topics
PS-298 Gender and Health Care
PS-334 Human Rights
PS-335 Law of Nations
PS-340 Topics in International Politics
PS-346 African Politics

OPTION 2:
PS-249 Senegambia I
PS-250 Senegambia II

OPTION 3:
PS-235 Migration
PS-236 Eyewitness to Migration in Mexico

INTERPRETING DATA ELECTIVE
Take one of the following courses:
DS-110 Intro to Data Science
EB-210 Quantitative Business Analysis
EB-211 Business Statistics
ESS-230 Environmetrics
MA-205 Elementary Statistics
MA-220 Introduction to Probability & Statistics
MA-321 Multivariate Statistics
PY-260 Research Methods & Statistics I
SW-214 Integrated Research Methods & Stats I

ECONOMICS COURSES
Take two of the following courses:
EB-105 International Economic Issues
EB-222 Principles of Macroeconomics
EB-223 Principles of Microeconomics
EB-381 International Political Economy
ESS-305 Environmental Economics

POLITICS ELECTIVE
Take any 3 credits from the Politics Department (any course with a PS prefix). NOTE: Global Climate Change counts as a Politics Department Elective.
**Politics credits taken during your semester abroad can be used to fulfill this requirement but cannot also be used to fulfill your Study Abroad credits.*

WORLD LANGUAGE AND CULTURE
Take any 3 credits from the World Language & Cultures Department.
**World Language & Culture credits taken during your semester abroad can be used to fulfill this requirement but cannot also be used to fulfill your Study Abroad credits.*

STUDY ABROAD

International Politics students must take 12 credits of coursework during a semester or year-long study abroad experience. These 12 credits cannot count for any other POE requirement.

CAPSTONE
Complete one of the following categories below:

SENIOR SEMINAR:
PS-499 Senior Seminar

HONORS RESEARCH SERIES:
PS-497 Honors Research I
PS-498 Honors Research II

IMPORTANT: The same course cannot be used to satisfy more than one POE requirement.

POE Credit Total = 51
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

International Studies (Bachelor of Arts)

REQUIRED CORE
Take the following courses:
PACS-105 Introduction to Conflict Resolution
PACS-11 Introduction to Peace & Conflict Studies
PS-102 Introduction to International Politics
HS-320 Interpreting Terrorism
EB-105 International Economic Issues
EB-381 International Political Economy

SKILLS & METHODS COURSES
Take 3 credits from the following courses:
CM-310 Understanding Health Inequity
ESS-100 Environmental Systems I
ESS-206 Global Environmental Issues
MA-205 Elementary Statistics

INTERNATIONAL STUDIES ELECTIVE COURSES
Take a minimum of 12 credits from the following courses. At least three departments must be represented from the list below. At least 8 credits must be at the 300/400 level to reach the 18 credit upper-level POE requirement.
PEACE AND CONFLICT STUDIES COURSES:
PACS-305 Gender and Conflict
PACS-308 Nonviolence and Social Justice
PACS-210 Technology, Social Media, and Conflict

ACCOUNTING, BUSINESS AND ECONOMICS COURSES:
EB-202 Behavioral Analysis of Organizations
EB-222 Principles of Macroeconomics
EB-223 Principles of Microeconomics

ENVIRONMENTAL SCIENCE AND STUDIES COURSES:
ESS-206 Global Environmental Issues
ESS-305 Environmental Economics
ESS-337 Environmental Law

HISTORY COURSES:
HS-200 The Great War
HS-204 Australia/New Zealand
HS-213 History of Ireland
HS-313 Disease, Medicine & Empire
HS-367 Women in Africa
HS-400 Crimes Against Humanity

PHILOSOPHY COURSES:
PL-101 Introduction to Philosophy
PL-105 Introduction to Logic
PL-310 Contemporary Political Philosophy

POLITICAL SCIENCE COURSES:
PS-222 Western Political Thought
PS-235 Migration
PS-236 Eyewitness to Migration in Mexico
PS-241 European Politics
PS-249 Senegambia I
PS-250 Senegambia II
PS-334 Human Rights
PS-340 Topics in International Politics

RELIGIOUS STUDIES COURSES:
RL-123 Global Religions Today
RL-341 Religion and War

WORLD LANGUAGE COURSES:
WL-201 Language in Motion
Take any World Language course above the 100 level.

STUDY ABROAD
Students are strongly recommended to study abroad for at least one semester (12-15 credits).
**Study abroad is waived for International Students. International Students or students opting not to study abroad will have to complete an additional 12 upper-level credits from the courses listed above.*

CAPSTONE/INTERNSHIP
Complete one of the following options below (at least 3-4 credits). A capstone in History, Economics or

Politics may be substituted in consultation with POE advisor.

OPTION 1:
PACS-455 PACS Honors Thesis I

OPTION 2:
PACS-490 Peace & Conflict Studies Internship
PACS-495 PACS Intern.Res.Sem.

POE Credit Total = 40-45
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Legal Studies (Bachelor of Arts)

LEGAL STUDIES CORE
Take the following courses:
PS-101 Introduction to U.S. Government
PS-110 Exploring the Law
PS-190A Mock Trial
PS-190B Mock Trial
EB-203 Introduction to Business Law
PL-105Introduction to Logic

LEARNING ABOUT THE LAW
Complete at least 17 credits from the following courses:
EB-105 International Economic Issues
EB-204 Legal Regulation of Business
EB-379 Bargaining and Conflict Management
ESS-337 Environmental Law
EN-272 Introduction to Professional Writing
HS-400 Crimes Against Humanity
PS-102 Introduction to International Politics
PS-155 Lobbying
PS-311 Constitutional Interpretation: Powers of Government
PS-312 Constitutional Interpretation: Civil Rights
PS-313 Congress and Presidency
PS-320 Topics Political Philos & Jurisprudence
PS-334 Human Rights
PS-490 Legal & Public Affairs Internship
PS-495 Politics Internship Seminar
PACS-108 Mediation

CRITICAL THINKING SKILLS FOR LEGAL STUDIES
Complete at least 6 credits from the following courses:
EB-131 Financial Accounting
EB-223 Principles of Microeconomics
EN-236 Dirty Books
EN-392 Crossing the Border
EN-302 Literature of Social Protest
PL-106 Introduction to Ethics
PL-205 Ancient Philosophy
PL-310Contemporary Political Philosophy
PY-101 Introduction to Psychology
PY-203 Abnormal Psychology
PY-302 Moral Judgment
PS-222 Western Political Thought
RL-265 U.S. Religious Diversity
CJ-260 Introduction to Criminal Justice
SO-302 Social Deviance and Criminology

INSIDE OUT COURSE
(Recommended, but not required) Take one Inside Out course that brings together campus-based students with incarcerated students and meets at the state correctional institution.

CAPSTONE
Complete one of the following Capstone Experiences below (must include a thesis related to Legal Studies):

OPTION 1:
PS-497 Honors Research I
PS-498 Honors Research II

OPTION 2:
PS-499 Senior Seminar

OPTION 3:
HS-492 Sr History Research/Seminar I

POE Credit Total = 42-48
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Management (Bachelor of Science)

MANAGEMENT CORE
Take the following courses:
EB-100 Introduction to Management
EB-105 International Economic Issues
EB-131 Financial Accounting
EB-202 Behavioral Analysis of Organizations
EB-211 Business Statistics
EB-236 Managerial Accounting
EB-341 Product and Operations Management
EB-351 Marketing Management
EB-361 Financial Management I
EB-371 Human Resource Management.

Take one of the following courses:

EB-210 Quantitative Business Analysis
MA-130 Calculus I

Take one of the following courses:
EB-222 Principles of Macroeconomics
EB-223 Principles of Microeconomics

ADDITIONAL COURSES
Take 11 credits from the EB department at the 200/300/400/500 level or Study Abroad one semester (individualized POE):
EB-203 Introduction to Business Law
EB-204 Legal Regulation of Business
EB-207 New Venture Creation
EB-307 New Venture Start-Ups
EB-308 Business Studies Abroad I
EB-309 Business Studies Abroad II
EB-337 Cost Accounting
EB-342 Management Information Systems
EB-355 Marketing Strategies
EB-359 Advertising & Promo Mgmt
EB-362 Financial Management II
EB-379 Bargaining and Conflict Management
EB-381 International Political Economy
EB-407 Entrepreneurship
EB-463 Financial Markets & Institutions
EB-222 Principles of Macroeconomics
(If not taken above)
EB-223 Principles of Microeconomics
(If not taken above)
EB-399 Special Topics
EB-499 Special Topics

CAPSTONE
Take the following course:
EB-480 Senior Seminar

INTERNSHIPS ARE ALSO AVAILABLE
EB-001 Non-Credit Business Internship
EB-490 Business Internship
EB-495 Business Internship Seminar

The Accounting, Business, and Economics (ABE) Department does not permit students in their department to pursue more than one ABE Program of Emphasis (POE). Students wishing to develop individualized POEs incorporating multiple ABE disciplines should consult with their POE Advisor for guidance.

POE Credit Total = 44

Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Marine Science (Bachelor of Science)

ENVIRONMENTAL & BIOLOGICAL SCIENCE
Take the following courses:
ESS-100 Environmental Systems I
ESS-110 Environmental Systems II
BI-101 General Biology I
BI-102 General Biology II
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab

DATA DISPLAY & ANALYSIS
Take the following courses:
ESS-230 Environmetrics
ESS-330 Geographical Information Systems

AQUACULTURE
Take the following courses:
AQCUL-101 Introduction to Aquaculture - Ahumoana (Abroad)
AQCUL-201 Invertebrate and Algal Aquaculture (Abroad)
AQCUL-301 Aquaculture Industry and Innovation (Abroad)

FIELD DATA COLLECTION
Take the following courses:
ESS-145 Applied Underwater Techniques
ESS-361 Field Methods in Marine Systems
SCUBA for Science Capstone (Abroad)

MARINE & AQUATIC SCIENCES
Take the following courses:
ESS-261 Marine Biology I
ESS-310 Water Resources I
EARTH-341 Costal Oceanography or EARTH-241 Oceanography (Abroad)

ADVANCED MARINE & AQUATIC SCIENCES
Complete one of the following options below:

OPTION 1:
BIOEB-305 Marine Ecology (Abroad)
AQCUL-202 Fish Aquaculture (Abroad)
ENVSC-201 Environmental Monitoring (Abroad)

OPTION 2:
Take one of the following courses:
ESS-323 Aquatic Ecology

ESS-335 Quantitative Ecology
ESS-323 Aquatic Ecology
ESS-335 Quantitative Ecology

Take one of the following courses:
ESS-328 Limnology
ESS-345 Ichthyology

MANAGEMENT SCIENCES
Take one of the following courses:
ESS-445 Fishery Science & Management
ESS-324 Natural Resource Management

CAPSTONE
Take the following course:
ESS-401 Senior Capstone II

POE Credit Total = 57-59
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Marketing (Bachelor of Science)

MARKETING CORE
Take the following courses:
EB-100 Introduction to Management
EB-105 International Economic Issues
EB-131 Financial Accounting
EB-202 Behavioral Analysis of Organizations
EB-211 Business Statistics
EB-223 Principles of Microeconomics
EB-236 Managerial Accounting
EB-341 Product and Operations Management
EB-351 Marketing Management
EB-355 Marketing Strategies
EB-358 Marketing Research and Analytics
EB-361 Financial Management I
EB-371 Human Resource Management.
CM-132 Message Analysis
CM-330 Media Analysis

Take one of the following courses:
EB-210 Quantitative Business Analysis
MA-130 Calculus I

Take the following course:
EB-359 Advertising & Promo Mgmt

The option of Semester Abroad is encouraged. Foreign exchange partner institutions are likely to offer equivalent courses for EB-222, EB-223, EB-351, EB-355, EB-341, EB-361, or EB-371.

CAPSTONE
Take the following course:
EB-480 Senior Seminar

INTERNSHIPS ARE ALSO AVAILABLE
EB-001 Non-Credit Business Internship
EB-490 Business Internship
EB-495 Business Internship Seminar

The Accounting, Business, and Economics (ABE) Department does not permit students in their department to pursue more than one ABE Program of Emphasis (POE). Students wishing to develop individualized POEs incorporating multiple ABE disciplines should consult with their POE Advisor for guidance.

POE Credit Total = 59-60
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Mathematics (Bachelor of Science)

MATHEMATICS CORE
Take one of the following courses:
MA-116 Discrete Structures
CS-116 Discrete Structures

Take the following courses:
MA-130 Calculus I
MA-160 Linear Algebra
MA-210 Foundations of Mathematics
MA-230 Calculus II
MA-235 Calculus III
CS-110 Computer Science I
MA-480 Mathematics Seminar I

Take one of the following courses:
MA-205 Elementary Statistics
MA-220 Introduction to Probability & Statistics

ADDITIONAL COURSES
PROOF BASED MATHEMATICS:
Take one of the following courses:
MA-350 Topics in Geometry
MA-360 Abstract Algebra
MA-370 Real Analysis

APPLIED MATHEMATICS:
Take one of the following courses:
MA-303 Mathematical Modeling

MA-321 Multivariate Statistics
MA-322 Probability
MA-325 Statistical Consulting
MA-335 Differential Equations
MA-341 Scientific Computing
CS-341 Scientific Computing

UPPER-LEVEL COURSES
Take six credits from the following Mathematics courses:
MA-303 Mathematical Modeling
MA-321 Multivariate Statistics
MA-322 Probability
MA-325 Statistical Consulting
MA-335 Differential Equations
MA-341 Scientific Computing
MA-350 Topics in Geometry
MA-355 Nature of Mathematics
MA-360 Abstract Algebra
MA-370 Real Analysis
MA-399 Special Topics
MA-485 Mathematics Research

COURSES FROM OTHER DEPARTMENTS
Take an additional six credits from the Mathematics, Computer Science, Data Science, ABE or Physics departments:
MA-303 Mathematical Modeling
MA-321 Multivariate Statistics
MA-322 Probability
MA-325 Statistical Consulting
MA-335 Differential Equations
MA-341 Scientific Computing
MA-350 Topics in Geometry
MA-355 Nature of Mathematics
MA-360 Abstract Algebra
MA-370 Real Analysis
MA-399 Special Topics
MA-485 Mathematics Research
CS-300 Software Engineering
CS-31 Algorithms and Analysis
CS-330 Computer Graphics
CS-362 Languages and Translation
CS-370 Database Management Systems
CS-399Special Topics
DS-352 Machine Learning
EB-320 Intermediate Microeconomics
EB-321 Intermediate Macroeconomics
EB-341 Product and Operations Management
EB-463 Financial Markets & Institutions
EB-465 Financial Theory and Analysis
PC-301 Modern Physics
PC-320 Engineering Mechanics I: Statics
PC-321 Engineering Mechanics II: Dynamics
PC-340 Mathematical Methods in Physics
PC-350 Thermal Physics
PC-402 Quantum Mechanics
PC-410 Classical Mechanics
PC-491 Electricity & Magnetism
PC-430 Optics

CAPSTONE
Take one of the following courses:
MA-480 Mathematics Seminar I
MA-485 Mathematics Research

POE Credit Total = 48
Students must complete at least 18 credits at the 300/400-level at least 12 credits of which must be from courses with an MA prefix (excluding MA 480 Mathematics Seminar). Any course exception must be approved by the advisor and/or department chair.

Mathematics and Secondary Education (Bachelor of Science)

MATHEMATICS CORE
Take the following courses:
MA-130 Calculus I
MA-160 Linear Algebra
MA-210 Foundations of Mathematics
MA-230 Calculus II
MA-235 Calculus III
MA-350 Topics in Geometry
MA-355 Nature of Mathematics
MA-360 Abstract Algebra

Take one of the following courses:
MA-205 Elementary Statistics
MA-220 Introduction to Probability & Statistics

Take one of the following courses:
MA-303 Mathematical Modeling
MA-341 Scientific Computing

UPPER-LEVEL CORE
Take 8 credits at the 300 or 400 level from the Mathematics Department (excludes MA-303, MA-350, MA-355, MA-360 and MA-480).

MATH RELATED COURSES
Take one of the following courses:
MA-116 Discrete Structures
CS-116 Discrete Structures

Take the following course:
CS-110 Computer Science I

ADDITIONAL COURSES
Take 2-5 additional credits from the DS - Data Science, CS - Computer Science or PC - Physics departments.
(Also includes MA-208, PL-208, IT-105 and PL-105: POE Substitution Approval Form is required)

EDUCATION CORE
Take the following courses:
ED-110 Foundations of Education
ED-111 Foundations of Education Field Experience
ED-130 Adolescent Development
ED-240 Introduction to Students with Exceptionalities
ED-314 English Language Learners
ED-341 Adaptations for Students with Exceptional Needs
ED-341F Adaptations for Students with Special Needs Field Experience
ED-419 Pre-Student Teaching Field Experience
ED-420 General Secondary Methods & Ethics in Education
ED-423 Secondary Education Field Trip

CAPSTONE
Take the following courses:
ED-450 Student Teaching
ED-451 Student Teaching Seminar

POE Credit Total = 84-87
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Media Studies & Production (Bachelor of Arts)

CORE COURSES
Take the following courses:
CM-131 Interpersonal Communication
CM-132 Message Analysis
CM-133 Mass Media and Society
CM-200 Art of Public Speaking
CM-401 Senior Seminar

SKILLS & METHODS COURSES
Take 9 credits from the following courses:
CM-220 Group Communication
CM-131 Interpersonal Communication
CM-240 Introduction to Storytelling
CM-241 Introduction to Media Practice
CM-261 CM Studies in Germany I
CM-262 CM Studies in Germany II
CM-263 Digital Audio Production
CM-288 Strategic Communication
CM-300 Professional Presentations
CM-289 Communication Practicum
CM-341 Intermediate Media Practice
CM-363 Digital Video Production I
CM-463 Digital Video Production II

Take the following course:
CM-330 Media Analysis

SEMINAR COURSES
Take 12 credits from the following courses:
CM-245 Photojournalism: the Ethics of Seeing
CM-290 The Metaverse
CM-342 Documentary History & Theory
CM-388 Public Communication Campaigns
CM-399 Special Topics
CM-420A Hollywood Films
CM-420B Media Violence
CM-420D Truth and Lying
CM-420E Digital Storytelling

ELECTIVE COURSES
Take 12 credits from the following courses:
PS-205 Politics in Film
EN-307 Mythology in Film
ESS-119 Environmental Film
ESS-121 Environmental Film Lab
RU-203 East European Film
ESS-118 Global Justice Film
FR-326 French Cinema
EN-299 Special Topics
EN-311 Professional News and Feature Writing
EN-237 Constructing Identities
EN-273 Visual Literacy
EN-374 Ethical Game Design
EN-376 Writing Across Media
EN-378 Video Production Writing
AR-102 Principles of Digital Media
AR-104 Design and Color
AR-204 Digital Art I
IM-310 Social Media

CAPSTONE
Complete one of the following options below (a minimum of 4 credits):

OPTION 1:
CM-490 Communication Internship
CM-495 Communication Internship Research

OPTION 2:
CM-497 Senior Thesis Seminar
CM-498 Senior Thesis Research

POE Credit Total = 55
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Molecular Biology (Bachelor of Science)

BIOLOGY CORE
Take the following courses:
BI-101 General Biology I
BI-102 General Biology II
BI-209 Cell & Molecular Biology
BI-316 Advanced Molecular and Cellular Biology
BI-317 Principles of Genetics
BI-405 Bioinformatics Fundamentals

Take one of the following courses:
BI-289 Frontiers of Biology
CH-210 Chemistry and Biochemistry Seminar

CHEMISTRY CORE
Take the following courses:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab
CH-232 Organic Chemistry I
CH-233 Organic Chemistry I Lab
CH-312 Biochemistry

MATHEMATICS CORE
Take the following course:
MA-130 Calculus I

WRITING CORE
Take one of the following courses:
BI-314 Talk Nerdy to Me
BI-315 Grant Writing for STEM

PHYSICS CORE
Complete one of the following options below:

OPTION 1:
PC-200 General Physics I
PC-200L General Physics Lab I
PC-201 General Physics II
PC-201L General Physics Lab II

OPTION 2:
PC-202 Intro Physics I
PC-202L Intro Physics Lab I
PC-203 Intro Physics II
PC-203L Intro Physics Lab II

ELECTIVES
Take two of the following courses:
BI-305 Biostatistics
BI-318 Developmental Biology
BI-340 Medical Microbiology
BI-339 Organic Evolution
BI-444 Immunology
BI-437 Molecular Ecology
BI-470 Practical Genomics
BI-380 Biology Research Methods
BI-489 Biology Research

CAPSTONE
Take the following course:
ND-498 Natural Sciences Capstone

POE Credit Total = 59-61
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Nanoscience (Bachelor of Science)

PHYSICS COURSES
Take the following courses:
PC-202 Intro Physics I
PC-202L Intro Physics Lab I
PC-203 Intro Physics II
PC-203L Intro Physics Lab II
PC-260 Intro to Materials Science & Engineering
PC-301 Modern Physics
PC-302 Experimental Methods
PC-315 Nanoscience
PC-402 Quantum Mechanics

CHEMISTRY COURSES
Take the following courses:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab
CH-356 Thermodynamics & Chemical Kinetics
CH-360 Quantum Chemistry & Spectroscopy

COMPUTER SCIENCE COURSE
Take the following course:
CS-110 Computer Science I

MATHEMATICS COURSES
Take the following courses:
MA-130 Calculus I
MA-230 Calculus II
MA-235 Calculus III
MA-335 Differential Equations

CAPSTONE
Take one of the following courses below:
PC-455 Physics & Engineering Physics Capstone
CH-486 Chemical Sciences Capstone 1

POE Credit Total = 59-61
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Neuroscience (Bachelor of Science)

NEUROSCIENCE CORE
Take the following course:
NEU-120 Fundamentals Undergraduate Neuroscience

BIOLOGY CORE
Take the following courses:
BI-101 General Biology I
BI-102 General Biology II

CHEMISTRY CORE
Take the following courses:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab
CH-232 Organic Chemistry I

PSYCHOLOGY CORE
Take the following courses:
PY-101 Introduction to Psychology
PY-238 Biopsychology

STATISTICS CORE
Take one of the following courses:
BI-305 Biostatistics
MA-220 Introduction to Probability & Statistics

INTEGRATED CORE
Complete 9 credits from the following areas below:

COGNITIVE/BEHAVIORAL:
PY-270 Cognitive Neuroscience

SYSTEMS:
BI-450 Neurobiology

MOLECULAR:
CH-312 Biochemistry

ELECTIVES
Complete at least one course from two different core areas below (a minimum of 6 credits):
COGNITIVE/BEHAVIORAL:
PY-203 Abnormal Psychology
PY-303 Learning & Conditioning
PY-304 Cognitive Psychology
PY-321 Health Psychology
PY-350 Developmental Psychology
ED-312 Language and the Brain
PY-340 Research in Psychology
PY-341 Research in Psychology

SYSTEMS:
BI-310 Physiology
BI-380 Biology Research Methods
BI-405 Bioinformatics Fundamentals
BI-489 Biology Research

MOLECULAR:
BI-316 Advanced Molecular and Cellular Biology
BI-318 Developmental Biology
CH-317 Biochemistry Lab
CH-418 Advanced Biochemistry
CH-494 Chemistry Research

CAPSTONE
Take the following course below:
NEU-494 Neuroscience Senior Capstone

POE Credit Total = 47-51
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Nursing (Bachelor of Science in Nursing)

SCIENCE-RELATED COURSES
Take the following courses (students must earn a B or higher in every Science-Related course):
BI-101 General Biology I
BI-118 Human Anatomy & Physiology I
BI-119 Human Anatomy & Physiology II
CH-123 Chemistry of Life

ADDITIONAL COURSES
Take the following courses:

BI-290 Nutrition
PY-101 Introduction to Psychology
MA-205 Elementary Statistics
SW-221 The Life Cycle

NURSING CORE
Take the following courses (students must earn a C+ or higher in every NUR - Nursing course):
NUR-200 Art of Professional Nursing
NUR-202 Health Assessment Across the Lifespan
NUR-255 Foundations of Nursing Practice
NUR-265 Nursing Care of Adults I
NUR-266 Pathophysiology
NUR-305 Nursing Care of Women/Children/Families
NUR-310 Mental Health Nursing
NUR-350 Healthcare Informatics & Technology
NUR-355 Nursing Care of Adults II
NUR-366 Pharmacology
NUR-400 Nursing Research Methods
NUR-405 Population Health-Local to Global
NUR-425 Complex Nursing Care

NURSING CAPSTONE
Take the following courses:
NUR-450 Professional Nursing Pathway to Practice
NUR-455 Nursing Leadership Immersion

POE Credit Total = 89
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Peace and Conflict Studies (Bachelor of Arts)

PACS CORE
Take 24 credits from the following courses:
PACS-105 Introduction to Conflict Resolution
PACS-108 Mediation
PACS-110 Introduction to Peace & Conflict Studies
PACS-299 Special Topics
PACS-305 Gender and Conflict
PACS-308 Nonviolence and Social Justice
PACS-210 Technology, Social Media, and Conflict
PACS-391 Scholar in Residence Special Topic
PACS-399 Special Topics
PACS-499 Special Topics

SKILLS/METHODS CORE
Take at least 3 credits from the following courses:
CM-310 Understanding Health Inequity
ESS-100 Environmental Systems I
ESS-206 Global Environmental Issues
MA-205 Elementary Statistics

PEACE AND CONFLICT AFFILIATED COURSES
Take at least 17 credits from the following courses:

COMMUNICATION COURSES:
CM-131 Interpersonal Communication
CM-365 Organizational Communication
CM-420E Digital Storytelling
CM-405A Women, Work & Identity
CM-420B Media Violence

ACCOUNTING, BUSINESS AND ECONOMICS:
EB-202 Behavioral Analysis of Organizations
EB-223 Principles of Microeconomics
EB-222 Principles of Macroeconomics

ENVIRONMENTAL SCIENCE AND STUDIES COURSES:
ESS-305 Environmental Economics
ESS-300 Environmental Problem Solving
ESS-330 Geographical Information Systems
ESS-337 Environmental Law

HISTORY COURSES:
HS-200 The Great War
HS-204 Australia/New Zealand
HS-213 History of Ireland
HS-309 Civil War and Reconstruction
HS-313 Disease, Medicine & Empire
HS-367 Women in Africa
HS-400 Crimes Against Humanity

POLITICS COURSES:
PS-222 Western Political Thought
PS-235 Migration
PS-236 Eyewitness to Migration in Mexico
PS-318 Parties, Elections & Campaigns
PS-334 Human Rights
PS-340 Topics in International Politics

INTERDISCIPLINARY COURSES:
CONN-312 Science and Society
EN-251 Slave Narratives
EN-392 Crossing the Border
PC-239 Nuclear Threat
PL-265 Environmental Ethics
PL-101 Introduction to Philosophy
PL-105 Introduction to Logic
PY-205 Social Psychology
PY-312 Cultural Psychology
RL-341 Religion and War
SP-275 Art and Activism in Latin America
SP-375 Art and Activism in Latin America

SP-301 Voice for Voiceless-LA Testimonial Narr

CAPSTONE/INTERNSHIP
Complete one of the following options below (at least 3-4 credits). A capstone in History, Economics or Politics may be substituted in consultation with POE advisor.

OPTION 1:
PACS-455 PACS Honors Thesis I

OPTION 2:
PACS-490 Peace & Conflict Studies Internship
PACS-495 PACS Intern.Res.Sem.

POE Credit Total = 50-60
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Peace & Criminal Justice Studies (Bachelor of Science)

PEACE AND CRIMINAL JUSTICE STUDIES CORE
Take at least 24 credits from the following courses:
SO-101 Introduction to Sociology
PACS-105 Introduction to Conflict Resolution
PACS-108 Mediation
PACS-110 Introduction to Peace & Conflict Studies
SO-203 Minority Experiences
CJ-260 Introduction to Criminal Justice
SO-302 Social Deviance and Criminology
PACS-308 Nonviolence and Social Justice

SKILLS/METHODS COURSES
Take at least 3 credits from the following courses:
CM-310 Understanding Health Inequity
SW-214 Integrated Research Methods & Stats I
SW-215 Integrated Research Methods & Stats II
SW-231 Social Problems & Social Welfare

AFFILIATED COURSES
Take 15-16 credits from the designated subject areas below. (Upper-level courses, including those above, must total at least 18 credits):

SOCIOLOGY/SOCIAL WORK COURSES:
SW-230 Introduction to Social Work Practice
SW-332 Social Work Practice: Large Groups, Organizations and Communities
SW-333 Social Welfare Policies and Services
SO-244 Drugs and Society
SO-299 Special Topics
CJ-362 Juvenile Justice
SO-399 Special Topics
SO-499 Special Topics
PACS-299 Special Topics
PACS-399 Special Topics
PACS-499 Special Topics

COMMUNICATION COURSES:
CM-131 Interpersonal Communication
CM-365 Organizational Communication
CM-420B Media Violence

ACCOUNTING, BUSINESS AND ECONOMICS COURSES:
EB-202 Behavioral Analysis of Organizations
EB-222 Principles of Macroeconomics
EB-22 Principles of Microeconomics

HISTORY COURSES:
HS-200 The Great War
HS-309 Civil War and Reconstruction
HS-313 Disease, Medicine & Empire

POLITICS COURSES:
PS-101 Introduction to U.S. Government
PS-334 Human Rights

INTERDISCIPLINARY COURSES:
CONN-312 Science and Society
EN-251 Slave Narratives
EN-392 Crossing the Border
PC-239 Nuclear Threat
PL-101 Introduction to Philosophy
PY-205 Social Psychology
PY-312 Cultural Psychology
SP-301 Voice for Voiceless-LA Testimonial Narr

CAPSTONE/INTERNSHIP
Take at least 6 credits from the following courses:
SO-401 Sociology Senior Seminar
SO-492 Sociology Internship
SO-495 Sociology Research/Seminar
PACS-455 PACS Honors Thesis I
PACS-490 Peace & Conflict Studies Internship
PACS-495 PACS Intern.Res.Sem.

POE Credit Total = 48-49
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Philosophy (Bachelor of Arts)

PHILOSOPHY CORE
Take one of the following courses:
PL-105 Introduction to Logic
PL-208 Symbolic Logic

Take the following course:
PL-450 Senior Thesis

HISTORY COMPONENT
Take the following courses:
PL-205 Ancient Philosophy
PL-275 Modern Philosophy

VALUES STUDIES COMPONENT
Take one of the following courses:
PS-221 American Political Thought
PS-222 Western Political Thought
PS-320 Topics Political Philos & Jurisprudence
RL-302 Atheism
RL-450 God, Evil & the Holocaust

ETHICS COMPONENT
Take one of the following courses:
PL-106 Introduction to Ethics
PL-230 Business Ethics
PL-235 Ethics of Health Care
PL-265 Environmental Ethics
PL-270 Ethical Theory

UPPER-LEVEL COURSES
Students must complete at least 18 credits from the PL-Philosophy Department at the 300 or 400 level.

CAPSTONE
Take the following course:
PL-INS Philosophy Independent Study

POE Credit Total = 36
Any course exception must be approved by the advisor and/or department chair.

Physics (Bachelor of Science)

MATHEMATICAL CORE
Take the following courses:
MA-130 Calculus I
MA-230 Calculus II
MA-235 Calculus III
MA-335 Differential Equations

PHYSICS CORE
Take the following courses:
PC-189 Physics Seminar
PC-202 Intro Physics I
PC-202L Intro Physics Lab I
PC-203 Intro Physics II
PC-203L Intro Physics Lab II
PC-301 Modern Physics
PC-302 Experimental Methods
PC-309 Research Methods
PC-350 Thermal Physics
PC-402 Quantum Mechanics
PC-410 Classical Mechanics
PC-49 Electricity & Magnetism

PHYSICS ELECTIVES
In addition to the required Physics and Mathematics courses, take two courses from the following list. (NOTE: Graduate schools may expect additional coursework):
PC-209 Electronics
PC-217 Engineering Tools & CAD
PC-239 Nuclear Threat
PC-260 Intro to Materials Science & Engineering
PC-315 Nanoscience

CAPSTONE
Take one the following courses below:
AS-455 Astronomy Capstone
PC-455 Physics & Engineering Physics Capstone

POE Credit Total = 59-62. Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Physics and Secondary Education (Bachelor of Science)

STEM CORE
Take the following courses:
PC-189 Physics Seminar
PC-209 Electronics
PC-301 Modern Physics
PC-302 Experimental Methods
PC-309 Research Methods
PC-320 Engineering Mechanics I: Statics
PC-321 Engineering Mechanics II: Dynamics
MA-130 Calculus I
MA-230 Calculus II
MA-235 Calculus III
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab

ADDITIONAL STEM CORE
Take the following courses:
PC-202 Intro Physics I
PC-202L Intro Physics Lab I
PC-203 Intro Physics II
PC-203L Intro Physics Lab II

PHYSICS/MATH ELECTIVE
Take one of the following courses:
PC-350 Thermal Physics
PC-402 Quantum Mechanics
PC-410 Classical Mechanics
PC-491 Electricity & Magnetism
MA-335 Differential Equations

EDUCATION CORE
Take the following courses:
ED-110 Foundations of Education
ED-111 Foundations of Education Field Experience
ED-130 Adolescent Development
ED-240 Introduction to Students with Exceptionalities
ED-314 English Language Learners
ED-341 Adaptations for Students with Exceptional Needs
ED-341F Adaptations for Students with Special Needs Field Experience
ED-419 Pre-Student Teaching Field Experience
ED-420 General Secondary Methods & Ethics in Education
ED-423 Secondary Education Field Trip

CAPSTONE
Take the following courses:
ED-450 Student Teaching
ED-451 Student Teaching Seminar

POE Credit Total = 89
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Politics (Bachelor of Arts)

POLITICS CORE

AMERICAN/INTERNATIONAL/COMPARATIVE:
Take the following courses:
PS-101 Introduction to U.S. Government
PS-102 Introduction to International Politics
PS-291 Mexican Fulbright Special Topics

POLITICAL PHILOSOPHY & JURISPRUDENCE:
Take one of the following courses:
PS-221 American Political Thought
PS-222 Western Political Thought

AMERICAN POLITICS
Take one of the following courses: (PS-389, PS-199, PS-299 or PS-399 may fulfill requirement depending on specific topic of course)
PS-125 Citizenship
PS-206 The Culture War
PS-208 Policy and Community
PS-218 Public Policy & Admin.
PS-289 Politics and the Media
PS-313 Congress and Presidency
PS-318 Parties, Elections & Campaigns
PS-325 Health Policy
PS-330 TPP: Topics in Public Policy

INTERNATIONAL POLITICS
Complete one of the following options below: (NOTE: PS-389, PS-199, PS-299 or PS-399 may fulfill requirement depending on specific topic of course.)

OPTION 1:
Take one of the following courses:
PS-241 European Politics
PS-243 U.S. Foreign Policy
PS-298 Gender and Health Care
PS-334 Human Rights
PS-335 Law of Nations
PS-340 Topics in International Politics
PS-346 African Politics

OPTION 2:
Take the following courses:
PS-235 Migration
PS-236 Eyewitness to Migration in Mexico

OPTION 3:
Take the following courses:
PS-249 Senegambia I
PS-250 Senegambia II

POLITICAL PHILOSOPHY & JURISPRUDENCE
Take one of the following courses: (NOTE: PS-389, PS-199, PS-299 or PS-399 may fulfill requirement depending on specific topic of course.)
PS-205 Politics in Film
PS-209 Sexual Politics
PS-221 American Political Thought
PS-222 Western Political Thought
PS-311 Constitutional Interpretation: Powers of Government
PS-312 Constitutional Interpretation: Civil Rights

PS-320 Topics Political Philosophy & Jurisprudence
PS-322 Surveillance and the Constitution

INTERPRETING DATA
Take one of the following courses:
DS-110 Intro to Data Science
EB-210 Quantitative Business Analysis
EB-211 Business Statistics
ESS-230 Environmetrics
MA-205 Elementary Statistics
MA-220 Introduction to Probability & Statistics
MA-321 Multivariate Statistics
PY-360 Research Methods and Statistics for Psychology I
SW-214 Integrated Research Methods & Stats I

ECONOMICS
Take one of the following courses:
EB-105 International Economic Issues
EB-222 Principles of Macroeconomics
EB-223 Principles of Microeconomics
ESS-305 Environmental Economics

ELECTIVES
Take 12 credits from the Politics Department - any course with a PS prefix. (NOTE: Global Climate Change counts as a Politics Department elective)

CAPSTONE
Complete one of the following categories below:

SENIOR SEMINAR:
PS-499 Senior Seminar

HONORS RESEARCH SERIES:
PS-497 Honors Research I
PS-498 Honors Research II

POE Credit Total = 48
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Professional Writing (Bachelor of Arts)

CORE COURSES
Take the following courses:
EN-204 English Colloquium
EN-272 Introduction to Professional Writing
EN-308 English Research Methods
EN-376 Writing Across Media
EN-379 Professional Editing
CM-133 Mass Media and Society
AR-102 Principles of Digital Media

WRITING TRACKS
Choose a specific writing track below (Track A or Track B):

TRACK A: Professional Writing Track

COMMUNICATION, ART & IMA COURSES
Take three of the following courses:
CM-132 Message Analysis
CM-200 Art of Public Speaking
CM-220 Group Communication
CM-240 Introduction to Storytelling
CM-290 The Metaverse
CM-300 Professional Presentations
CM-330 Media Analysis
CM-363 Digital Video Production I
CM-420E Digital Storytelling
AR-104 Design and Color
AR-203 Digital Photography I
AR-204 Digital Art I
AR-375 Community Design Lab

PROFESSIONAL WRITING COURSES
Take three of the following courses:
EN-247 Writing for Change
EN-273 Visual Literacy
EN-299 Special Topics
EN-311 Professional News and Feature Writing
EN-315 Technical Writing
EN-399 Special Topics

LITERATURE COURSES
Take two of the following courses:
EN-120 Forms of Literature
EN-122 Interpreting Pop Literature
EN-162 Women and Literature
EN-170 World Literatures
EN-188 Bad Literature
EN-207 Heaven or Hell on Earth
EN-211 Pennsylvania Literature
EN-212 Sports Literature
EN-213 Zombie Nation
EN-215 Boys Will Be Boys
EN-217 Disability in Fiction
EN-236 Dirty Books
EN-237 Constructing Identities
EN-239 Bloody Murder
EN-250 African American Literature
EN-251 Slave Narratives
EN-262 Unhappily Ever After
EN-301 Young Adult Literature

EN-302 Literature of Social Protest
EN-307 Mythology in Film
EN-312 Literature of Revenge
EN-313 Firing the Canon
EN-341 Shakespearean Drama
EN-385 Queer Literature
EN-388 Heroes and Villains
EN-392 Crossing the Border

INTERNSHIP AND SEMINAR/SENIOR CAPSTONE
Complete one of the following options below:

OPTION 1:
EN-490 English Internship
EN-495 Internship Seminar

OPTION 2:
EN-496 Senior Research Capstone

TRACK B: Creative Writing Track

CREATIVE WRITING COURSES
Take three of the following courses:
EN-208 Explorations in Creative Writing
EN-299 Special Topics
EN-303 Poetry Writing
EN-305 Fiction Writing
EN-306 Creative Nonfiction Writing
EN-378 Video Production Writing
TH-263 Playwriting

PROFESSIONAL WRITING COURSES
Take one of the following courses:
EN-247 Writing for Change
EN-273 Visual Literacy
EN-299 Special Topics
EN-311 Professional News and Feature Writing
EN-315 Technical Writing
EN-399 Special Topics

LITERATURE COURSES
Take three of the following courses:
EN-120 Forms of Literature
EN-122 Interpreting Pop Literature
EN-162 Women and Literature
EN-170 World Literatures
EN-188 Bad Literature
EN-207 Heaven or Hell on Earth
EN-211 Pennsylvania Literature
EN-212 Sports Literature
EN-213 Zombie Nation
EN-215 Boys Will Be Boys
EN-217 Disability in Fiction
EN-236 Dirty Books
EN-237 Constructing Identities
EN-239 Bloody Murder
EN-250 African American Literature
EN-251 Slave Narratives
EN-262 Unhappily Ever After
EN-301 Young Adult Literature
EN-302 Literature of Social Protest
EN-307 Mythology in Film
EN-312 Literature of Revenge
EN-313 Firing the Canon
EN-341 Shakespearean Drama
EN-385 Queer Literature
EN-388 Heroes and Villains
EN-392 Crossing the Border

SENIOR CAPSTONE
Take the following course:
EN-496 Senior Research Capstone

POE Credit Total = 50-52
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Psychology (Bachelor of Science)

PSYCHOLOGY CORE
Take the following course:
PY-101 Introduction to Psychology

STATISTICS COMPONENT
Take the following course:
PY-366 Research Methods & Statistics

Take one of the following courses below (MA-205 is the preferred option):
MA-205 Elementary Statistics
MA-220 Introduction to Probability & Statistics
BI-305 Biostatistics

BREADTH COMPONENT

APPLIED & PROFESSIONAL:
Take two of the following courses:
PY-203 Abnormal Psychology
PY-210 Psych Professional Development Seminar
PY-321 Health Psychology
PY-322 Sport Psychology
PY-370 Intro Counseling Theories & Techniques
PY-404 School Psychology

BRAIN & BEHAVIOR:

Take two of the following courses:
PY-238 Biopsychology
PY-270 Cognitive Neuroscience
PY-303 Learning & Conditioning
PY-375 Psychology of Emotion
PY-401 Comparative Psychology
PY-402 Evolutionary Psychology
PY-412 Expertise and Performance
ESK-303 Motor Learning & Control

SOCIAL, DEVELOPMENTAL & CULTURAL:
Take two of the following courses:
PY-202 Personality
PY-205 Social Psychology
PY-211 Race, Ethnicity, and Identity Studies
PY-302 Moral Judgment
PY-350 Developmental Psychology
PY-312 Cultural Psychology

ELECTIVES
Take two of the following courses:
PY-190 Introduction to Poverty Studies
PY-199 Special Topics
PY-202 Personality
PY-203 Abnormal Psychology
PY-205 Social Psychology
PY-210 Psych Professional Development Seminar
PY-211 Race, Ethnicity, and Identity Studies
PY-216 Public Health
PY-238 Biopsychology
PY-270 Cognitive Neuroscience
PY-299 Special Topics
PY-302 Moral Judgment
PY-303 Learning & Conditioning
PY-304 Cognitive Psychology
PY-312 Cultural Psychology
PY-321 Health Psychology
PY-322 Sport Psychology
PY-340 Research in Psychology
PY-341 Research in Psychology
PY-350 Developmental Psychology
PY-370 Intro Counseling Theories & Techniques
PY-375 Psychology of Emotion
PY-399 Special Topics
PY-401 Comparative Psychology
PY-402 Evolutionary Psychology
PY-404 School Psychology
PY-412 Expertise and Performance
PY-495 Psychology Int. Sem.

CAPSTONE
Take the following course below:
PY-415 Capstone in Psychology

POE Credit Total = 36-38
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Public Health (Bachelor of Science)

BIOLOGY CORE
Complete one of the following options below:

OPTION 1:
BI-190 Human Biology

OPTION 2:
BI-101 General Biology I
BI-102 General Biology II

PUBLIC HEALTH CORE
Take the following courses:
PS-101 Introduction to U.S. Government
PS-325 Health Policy
SO-101 Introduction to Sociology
SW-221 The Life Cycle
SW-333 Social Welfare Policies and Services
EB-223 Principles of Microeconomics
EB-325 Health Economics
PL-235 Ethics of Health Care
PY-216 Public Health
CM-310 Understanding Health Inequity

STATISTICS CORE
Take one of the following courses:
BI-305 Biostatistics
MA-205 Elementary Statistics

WRITING CORE
Take the following course:
EN-271 Public Health Writing

PUBLIC HEALTH TRACKS
Complete one of the following tracks below:

HEALTH POLICY & ADMINISTRATION:
Students must complete 13-16 credits including at least one 300/400/500 level course from the selection below:

PS-155 Lobbying
PS-206 The Culture War
PS-208 Policy and Community
PS-298 Gender and Health Care
PS-313 Congress and Presidency

CONN-350 Community Health Advocacy
CONN-392 Justice and Global Health
ESS-337 Environmental Law
EB-131 Financial Accounting
EB-202 Behavioral Analysis of Organizations
EB-363 Health Care Financial Management
MBA-561 Healthcare Operations
MBA-563 Healthcare Strategy

COMMUNITY HEALTH & HEALTH COMMUNICATION:
Students must complete 13-16 credits including at least one 300/400/500 level course from the selection below:

BI-290 Nutrition
PS-208 Policy and Community
PS-298 Gender and Health Care
PY-211 Race, Ethnicity, and Identity Studies
PY-321 Health Psychology
CM-132 Message Analysis
ED-260 Families, Schools, and Communities
CM-400A Health Communication
CONN-303 Genomics, Ethics, and Society
CONN-350 Community Health Advocacy
CM-340 Intercultural Communication

**NOTE: Students choosing Community Health & Health Communication track must complete a human subjects research experience.

Complete one of the following sequences below:

OPTION 1:
PY-101 Introduction to Psychology
PY-366 Research Methods & Statistics

OPTION 2:
SW-214 Integrated Research Methods & Stats I
SW-215 Integrated Research Methods & Stats II

PRACTICUM/CAPSTONE
Complete one of the following categories below:
PRACTICUM:

HP-300 Health Navigator Practicum

INTERNSHIP:
HP-490 Intern/Need Paperwork
HP-495 Health Professions Internship Research

POE Credit Total = 57-63

Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Social Studies Secondary Education (Bachelor of Arts)

SOCIAL STUDIES CORE
Take the following courses:
HS-115 United States to 1877
HS-116 The U.S. Since 1877
HS-152 World History Since 1450

Take one of the following courses:
HS-268 Sword & Scimitar: Islam & West 500-1300
HS-367 Women in Africa

CIVICS & GOVERNMENT CORE
Take the following courses:
PS-101 Introduction to U.S. Government
PS-102 Introduction to International Politics

Take one 200 or 300 level Politics course.

ECONOMICS CORE
Take the following course:
EB-105 International Economic Issues

PSYCHOLOGY CORE
Take the following course:
PY-101 Introduction to Psychology

SOCIOLOGY CORE
Take the following course:
SO-101 Introduction to Sociology

COLLOQUIUM CORE
Take the following course:
HS-293 Sophomore Colloquium

IN-DEPTH SOCIAL STUDIES CORE
Take three "knowledge in depth courses" from the following list, for a total of at least 9 credits. One of these must be a non-United States history course.
HS-104 Medieval Europe
HS-200 The Great War
HS-204 Australia/New Zealand
HS-208 Engineering, Empire, and the Environment
HS-213 History of Ireland
HS-215 Rome: Republic to Empire
HS-216 Civil Rights & Song
HS-217 The Lowcountry and the Gullah Culture
HS-262 North American Environmental History

HS-277 History of Food
HS-266 History of South Africa
HS-268 Sword & Scimitar: Islam & West 500-1300
HS-272 Natives & Colonists in Early N. America
HS-280 Victorian Science, Sexuality & Medicine
HS-299 Special Topics
HS-309 Civil War and Reconstruction
HS-312 The New South: 1877-1990
HS-313 Disease, Medicine & Empire
HS-314 Medieval Medicine
HS-317 Medicine in World War I
HS-319 Glorious Cause: American Revolutionary Era
HS-320 Interpreting Terrorism
HS-322 Women in Medieval Life
HS-325 The U.S. Since 1945
HS-363 Race, Power, and Gender in Southern Africa
HS-367 Women in Africa
HS-399 Special Topics
HS-499 Special Topics

MATH REQUIREMENT
Take 6 credits from the MA-Mathematics Department.

ENGLISH REQUIREMENT

ENGLISH COMPOSITION
Take the following course:
FYC-101 First Year Composition

ENGLISH LITERATURE
Take 3 credits from the following courses:
EN-120 Forms of Literature
EN-122 Interpreting Pop Literature
EN-162 Women and Literature
EN-170 World Literatures
EN-188 Bad Literature
EN-207 Heaven or Hell on Earth
EN-212 Sports Literature
EN-213 Zombie Nation
EN-215 Boys Will Be Boys
EN-217 Disability in Fiction
EN-236 Dirty Books
EN-237 Constructing Identities
EN-239 Bloody Murder
EN-250 African American Literature
EN-251 Slave Narratives
EN-262 Unhappily Ever After
EN-301 Young Adult Literature
EN-302 Literature of Social Protest
EN-307 Mythology in Film
EN-312 Literature of Revenge
EN-313 Firing the Canon
EN-341 Shakespearean Drama
EN-385 Queer Literature
EN-388 Heroes and Villains
EN-392 Crossing the Border

EDUCATION CORE
Take the following courses:
ED-110 Foundations of Education
ED-111 Foundations of Education Field Experience
ED-130 Adolescent Development
ED-240 Introduction to Students with Exceptionalities
ED-314 English Language Learners
ED-341 Adaptations for Students with Exceptional Needs
ED-341F Adaptations for Students with Special Needs Field Experience
ED-419 Pre-Student Teaching Field Experience
ED-420 General Secondary Methods & Ethics in Education
ED-423 Secondary Education Field Trip

CAPSTONE
Take the following courses:
ED-450 Student Teaching
ED-451 Student Teaching Seminar

POE Credit Total = 91
Students must complete at least 18 credits at the 300- or 400-level. Any course exception must be approved by the advisors and/or department chair.

Social Work (Bachelor of Science)

SOCIAL WORK CORE
Take the following courses:
SO-101 Introduction to Sociology
PY-101 Introduction to Psychology
BI-190 Human Biology
SW-214 Integrated Research Methods & Stats I
SW-215 Integrated Research Methods & Stats II
SW-221 The Life Cycle
SW-230 Introduction to Social Work Practice
SW-231 Social Problems & Social Welfare
SW-330 Social Work Practice: Individual, Family & Small Groups Laboratory
SW-331 Social Work Practice: Individual, Family & Small Groups
SW-333 Social Welfare Policies and Services

Take one of the following courses below:
SW-332 Social Work Practice: Large Groups, Organizations and Communities
CONN-350 Community Health Advocacy

MINORITY EXPERIENCES
Take one of the following courses below:
CM-210 Race and Language in the United States
PY-211 Race, Ethnicity, and Identity Studies
EN-203 Class/Status/Identity in US Literature
EN-217 Disability in Fiction
EN-237 Constructing Identities
EN-392 Crossing the Border
PS-206 The Culture War
SO-203 Minority Experiences

CAPSTONE
Take the following courses:
SW-490 Social Work: Professional Semester
SW-495 Professional Semester: Research Seminar

POE Credit Total = 56
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Spanish Education (Bachelor of Arts)

SPANISH CORE
Take the following courses (SP-110, SP-120 and SP-210 are waived if students place out of them, but no academic credit will be awarded):
SP-110 Spanish I
SP-120 Spanish II
SP-210 Spanish III
SP-230 Spanish Conversation & Composition
SP-235 Intermediate Spanish Grammar

Take one of the following courses:
SP-250 Introduction to Hispanic Literature
SP-255 Contemporary Hispanic Short Fiction

Take the following course:
SP-271 Enrichment After-School for Youth-Spanish

OTHER REQUIREMENTS

SPANISH OR SPANISH AMERICAN CIVILIZATION, CULTURE OR HISTORY
Take two courses; one of which must be at the 300/400 level:
SP-285 Introduction to Latin America
SP-385 Intro to Latin America
SP-260 Spanish Civilization
SP-265 Contemporary Spain
SP-365 Contemporary Spain
SP-301 Voice for Voiceless-LA Testimonial Narr
SP-275 Art and Activism in Latin America
SP-375 Art and Activism in Latin America

SPANISH OR SPANISH AMERICAN LITERATURE
Take two 300 or 400-level Hispanic literature courses from the list below, or approved Hispanic literature courses from study abroad at the 300/400 level:
SP-301 Voice for Voiceless-LA Testimonial Narr
SP-355 Contemporary Hispanic Short Fiction
SP-357 Hispanic Pop Culture in Poetry
SP-375 Art and Activism in Latin America
SP-399 Special Topics
SP-400 Contemporary Spanish American Novel
SP-401 Gender Fiction in Hispanic Literature
SP-404 Hispanic Metafiction
SP-405 Cont. Spanish Novel
SP-420 Generation of 1898

ELECTIVES
Complete an additional 4 elective courses which focus on topics of Spanish Language or Hispanic Cultures at the 300/400 level.
NOTE: By way of example only, courses taken on such topics as U.S. trade with Mexico, translation, business Spanish, social violence in Latin America, and Hispanic art and architecture would be considered acceptable electives provided that they were offered at the 300/400 level.

STUDY ABROAD
Complete one year of study abroad in a Spanish speaking country.

EDUCATION CORE
Take the following courses:
ED-110 Foundations of Education
ED-130 Adolescent Development
ED-240 Introduction to Students with Exceptionalities
ED-314 English Language Learners
ED-341 Adaptations for Students with Exceptional Needs
ED-341F Adaptations for Students with Special Needs Field Experience
ED-398 Methods for Foreign Language Education
ED-419 Pre-Student Teaching Field Experience

CAPSTONE
Take the following courses:
ED-450 Student Teaching
ED-451 Student Teaching Seminar

General Requirements:
Students must complete a minimum of 33 hours in Spanish and Hispanic Cultures courses above

Spanish 210, including at least 18 credits at the 300/400 level. Alternative courses taken at other institutions may be substituted as long as they are deemed comparable to Juniata offerings by the Spanish faculty.
An academic year of study abroad in a Spanish speaking country. NOTE: Exceptions will be permitted only under special circumstances with the approval of the Department of World Languages and Culture.
After returning from their semester or year abroad, students will take a 300 or 400-level course at Juniata offered in Spanish.
Prior to the second semester of the student's senior year, she/he will demonstrate advanced-low oral proficiency in Spanish as measured by an Oral Proficiency Interview (American Council on the Teaching of Foreign Languages).

Additional Certification Requirements:
2 Math courses
1 English literature course
POE Credit Total = 69
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Spanish/Hispanic Cultures (Bachelor of Arts)

SPANISH CORE
Take the following courses (SP-110, SP-120 and SP-210 are waived if students place out of them, but no academic credit will be awarded):
SP-110 Spanish I
SP-120 Spanish II
SP-210 Spanish III
SP-230 Spanish Conversation & Composition
SP-235 Intermediate Spanish Grammar

Take one of the following courses:
SP-250 Introduction to Hispanic Literature
SP-255 Contemporary Hispanic Short Fiction

Take one of the following courses:
WL-201 Language in Motion
SP-271 Enrichment After-School for Youth-Spanish

OTHER REQUIREMENTS

SPANISH OR SPANISH AMERICAN CIVILIZATION, CULTURE OR HISTORY:
Take two courses; at least one of the courses must be at the 300/400 level.
SP-238 Spanish & CEL in Guatemala 1
SP-239 Spanish & CEL in Guatemala 2
SP-285 Introduction to Latin America
SP-385 Intro to Latin America
SP-260 Spanish Civilization
SP-265 Contemporary Spain
SP-365 Contemporary Spain
SP-301 Voice for Voiceless-LA Testimonial Narr
SP-275 Art and Activism in Latin America
SP-375 Art and Activism in Latin America

SPANISH OR SPANISH AMERICAN LITERATURE:
Take two 300 or 400-level Hispanic literature courses from the list below, or approved Hispanic literature courses from study abroad at the 300/400 level:
SP-301 Voice for Voiceless-LA Testimonial Narr
SP-355 Contemporary Hispanic Short Fiction
SP-357 Hispanic Pop Culture in Poetry
SP-375 Art and Activism in Latin America
SP-399 Special Topics
SP-400 Contemporary Spanish American Novel
SP-401 Gender Fiction in Hispanic Literature
SP-404 Hispanic Metafiction
SP-405 Cont. Spanish Novel
SP-420 Generation of 1898

ELECTIVES
Complete an additional 4 elective courses which focus on topics of Spanish Language or Hispanic Cultures at the 300/400 level.
NOTE: By way of example only, courses taken on such topics as U.S. trade with Mexico, translation, business Spanish, social violence in Latin America, and Hispanic art and architecture would be considered acceptable electives provided that they were offered at the 300/400 level.

STUDY ABROAD
Complete a minimum of one semester and preferably one year of study abroad in a Spanish speaking country.

CAPSTONE
Take one of the following courses below:
SP-305 Advanced Spanish Conversation & Comp
SP-355 Contemporary Hispanic Short Fiction
SP-357 Hispanic Pop Culture in Poetry
SP-365 Contemporary Spain
SP-375 Art and Activism in Latin America
SP-385 Intro to Latin America
SP-399 Special Topics
SP-400 Contemporary Spanish American Novel
SP-401 Gender Fiction in Hispanic Literature

SP-404 Hispanic Metafiction
SP-405 Cont. Spanish Novel
SP-420 Generation of 1898
SP-499 Special Topics

POE Credit Total = 34
(33 in Spanish and 1 in Language in Motion)
Any course exception must be approved by the advisor and/or department chair.

Sport Management (Bachelor of Science)

REQUIRED CORE COURSES
Take the following courses:
EB-100 Introduction to Management
EB-105 International Economic Issues
EB-131 Financial Accounting
CM-132 Message Analysis
CM-133 Mass Media and Society
EB-202 Behavioral Analysis of Organizations
EN-212 Sports Literature
PL-230 Business Ethics
EB-236 Managerial Accounting
EB-351 Marketing Management
EB-377 Sports Management
EB-382 Sport Analytics

Take one of the following courses:
EB-211Business Statistics
MA-205 Elementary Statistics
MA-220 Introduction to Probability & Statistics

Take one of the following courses:
CM-330 Media Analysis
CM-388 Public Communication Campaigns

ELECTIVES
Take a minimum of 6 credits from the following courses:
PY-322 Sport Psychology
EB-383 Sport Finance
EB-384 Athletics Event Management
EB-385 College Athletics & Administration
EB-490 Business Internship
EB-495 Business Internship Seminar
*Additional courses to be announced.

CAPSTONE
Take the following course:
EB-480 Senior Seminar

The Accounting, Business, and Economics (ABE) Department does not permit students in their department to pursue more than one ABE Program of Emphasis (POE). Students wishing to develop individualized POEs incorporating multiple ABE disciplines should consult with their POE Advisor for guidance.

POE Credit Total = 56
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Strategic Communication (Bachelor of Arts)

CORE COURSES
Take the following courses:
CM-131 Interpersonal Communication
CM-132 Message Analysis
CM-133 Mass Media and Society
CM-200 Art of Public Speaking
CM-401 Senior Seminar

SKILLS & METHODS COURSES
Take 12 credits from the following courses:
CM-210 Race and Language in the United States
CM-220 Group Communication
CM-131 Interpersonal Communication
CM-240 Introduction to Storytelling
CM-241 Introduction to Media Practice
CM-261 CM Studies in Germany I
CM-262 CM Studies in Germany II
CM-288 Strategic Communication
CM-300 Professional Presentations
CM-330 Media Analysis
EB-351 Marketing Management
PACS-105 Introduction to Conflict Resolution
PACS-108 Mediation
EN-273 Visual Literacy
EN-315 Technical Writing

SEMINAR COURSES
Take 12 credits from the following courses:
CM-340 Intercultural Communication
CM-342 Documentary History & Theory
CM-365 Organizational Communication
CM-388 Public Communication Campaigns
CM-499 Special Topics
CM-400A Health Communication
CM-420D Truth and Lying
CM-420E Digital Storytelling
EB-375 21st Century Leadership

ELECTIVE COURSES
Take 12 credits from the following courses:
CM-310 Understanding Health Inequity
EN-271 Public Health Writing
EN-306 Creative Nonfiction Writing
EN-311 Professional News and Feature Writing
EN-376 Writing Across Media
IM-310 Social Media
EB-355 Marketing Strategies
EB-359 Advertising & Promo Mgmt
EB-371 Human Resource Management.
EB-379 Bargaining and Conflict Management

CAPSTONE
Complete one of the following options below (a minimum of 4 credits):

OPTION 1:
CM-490 Communication Internship
CM-495 Communication Internship Research

OPTION 2:
CM-497 Senior Thesis Seminar
CM-498 Senior Thesis Research

POE Credit Total = 55
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Wildlife Conservation (Bachelor of Science)

REQUIRED COURSES
Take the following courses:
ESS-100 Environmental Systems I
ESS-110 Environmental Systems II
BI-101 General Biology I
BI-300 General Ecology
BI-301 General Ecology Lab
BI-360 Vertebrate Zoology
BI-361 Vertebrate Zoology Lab
ESS-325 Conservation Biology
ESS-224 Wildlife Mgmt
ESS-330 Geographical Information Systems

PLANT BIOLOGY
Complete one of the following options below:

OPTION 1:
BI-327 Botany

OPTION 2:
ESS-340 Forestry

OPTION 3:
BI-325 Plant Ecology
BI-326 Plant Ecology Lab

CHEMISTRY REQUIREMENT
Complete one of the following options below:
OPTION 1:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab
OPTION 2:
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
GL-126 Environmental Geochemistry

RESOURCE POLICY/MANAGEMENT
Take one of the following courses:
ESS-324 Natural Resource Management
ESS-337 Environmental Law

MATHEMATICS/STATISTICS
Take the following course:
ESS-230 Environmetrics

Take one of the following courses:
BI-305 Biostatistics
ESS-335 Quantitative Ecology
MA-130 Calculus I
MA-205 Elementary Statistics

CAPSTONE
Take one of the following courses:
ESS-400 Senior Capstone I
ESS-401 Senior Capstone II

POE Credit Total = 53-55
Students must complete at least 18 credits at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

SECONDARY EMPHASES (MINORS)

2D Arts Secondary Emphasis

CORE COURSES
Take one of the following courses:
AH-108 Cross Cultural Art 1

AH-113 Cross-Cultural Art 2
AH-330 Why Is That Art? 1945-Present

ART & ART HISTORY COURSES
Take 15 credits from the following courses:
AR-103 Beginning Drawing
AR-200 Beginning Painting
AR-202 Water-Based Media Painting
AR-203 Digital Photography I
AR-204 Digital Art I
AR-208 Beginning Photography
AR-298 Mixed Media Animation
AR-300 Intermediate Painting
AR-400 Advanced Painting
AR-451 Capstone in 2D Studio Art I
AR-452 Capstone in 2D Studio Art II

Secondary Emphasis Credit Total = 20
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

3D Arts Secondary Emphasis

CORE COURSES
Take one of the following courses:
AH-108 Cross Cultural Art 1
AH-113 Cross-Cultural Art 2
AH-330 Why Is That Art? 1945-Present

ADDITIONAL COURSES
Take 15 credits from the following courses:
AR-117 Intro to Sculpture
AR-125 Explorations in Clay
AR-211The Art of Bookmaking
AR-215 Ceramic Sculpture
AR-220 Formulating Beauty: Ceramic Chemistry
AR-225 Wheel Throwing
AR-235 Empty Bowls Practicum
AR-305 Intermediate Ceramics
AR-398 3D Computer Animation
AR-405 Advanced Ceramics
AR-453 Capstone in 3D Studio Art I

Secondary Emphasis Credit Total = 19+
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Accounting Secondary Emphasis

ACCOUNTING CORE
Take the following courses:
EB-131 Financial Accounting
EB-232 Intermediate Accounting I
EB-233 Intermediate Accounting II
EB-236 Managerial Accounting

ADDITIONAL COURSES
Take one of the following courses:
EB-334 Advanced Accounting
EB-335 Auditing
EB-336 Federal Taxation: Individuals
EB-337 Cost Accounting

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Art Appreciation Secondary Emphasis

CORE COURSES
Take one of the following courses:
AH-108 Cross Cultural Art 1
AH-113 Cross-Cultural Art 2
AH-330 Why Is That Art? 1945-Present

ADDITIONAL COURSES
Take 15 credits from the following courses:
AR-103 Beginning Drawing
AR-117 Intro to Sculpture
AR-125 Explorations in Clay
AR-200 Beginning Painting
AR-202 Water-Based Media Painting
AR-203 Digital Photography I
AR-204 Digital Art I
AR-208 Beginning Photography
AR-211 The Art of Bookmaking
AR-215 Ceramic Sculpture
AR-220 Formulating Beauty: Ceramic Chemistry
AR-225 Wheel Throwing
AR-235 Empty Bowls Practicum
AR-290 Design Thinking
AR-298 Mixed Media Animation
AR-300 Intermediate Painting
AR-305 Intermediate Ceramics
AR-375 Community Design Lab
AR-376 Business of Design
AR-393 Integrated Media Practicum
AR-398 3D Computer Animation
AR-400 Advanced Painting
AR-405 Advanced Ceramics
AR-451 Capstone in 2D Studio Art I
AR-452 Capstone in 2D Studio Art II
AR-453 Capstone in 3D Studio Art I
AR-454 Capstone in 3D Studio Art II

AR-496 Digital Media Capstone I
AR-497 Digital Media Capstone II
AH-301 African-American Art: Slavery to Social Justice
AH-303 Reframing American Art to 1876
AH-304 Reframing American Art from 1876
AH-309 Expanding the Renaissance
AH-310 Global Baroque Art & Architecture
AH-311 Art of Ancient Peoples
AH-312 Medieval Art: Really a Dark Age?
AH-313 Northern Renaissance Art
AH-316 Art & Revolution: 19th Century Europe
AH-329 Impressionism to Abstract Expressionism
AH-330 Why Is That Art? 1945-Present
AH-399 Special Topics in Art History
MM-393 Cultural Institutions & Community Audiences

Secondary Emphasis Credit Total = 19+
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Art & Design Secondary Emphasis

ART & DESIGN CORE
Take one of the following courses below:
AH-108 Cross Cultural Art 1
AH-113 Cross-Cultural Art 2
AH-330 Why Is That Art? 1945-Present

ADDITIONAL COURSES
Take 15 credits from the following courses:
AR-103 Beginning Drawing
AR-110 Survey of Western Art
AR-117 Intro to Sculpture
AR-125 Explorations in Clay
AR-200 Beginning Painting
AR-202 Water-Based Media Painting
AR-203 Digital Photography I
AR-204 Digital Art I
AR-208 Beginning Photography
AR-211 The Art of Bookmaking
AR-215 Ceramic Sculpture
AR-220 Formulating Beauty: Ceramic Chemistry
AR-225 Wheel Throwing
AR-235 Empty Bowls Practicum
AR-298 Mixed Media Animation
AR-300 Intermediate Painting
AR-305 Intermediate Ceramics
AR-375 Community Design Lab
AR-376 Business of Design
AR-398 3D Computer Animation
AR-400 Advanced Painting
AR-405 Advanced Ceramics
AR-451 Capstone in 2D Studio Art I
AR-452 Capstone in 2D Studio Art II
AR-453 Capstone in 3D Studio Art I
AR-454 Capstone in 3D Studio Art II

Secondary Emphasis Credit Total = 19
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Art History Secondary Emphasis

ART HISTORY CORE
Take five of the following courses:
AR-110 Survey of Western Art
AH-108 Cross Cultural Art 1
AH-113 Cross-Cultural Art 2
AH-301 African-American Art: Slavery to Social Justice
AH-303 Reframing American Art to 1876
AH-304 Reframing American Art from 1876
AH-309 Expanding the Renaissance
AH-310 Global Baroque Art & Architecture
AH-311 Art of Ancient Peoples
AH-312 Medieval Art: Really a Dark Age?
AH-313 Northern Renaissance Art
AH-316 Art & Revolution: 19th Century Europe
AH-329 Impressionism to Abstract Expressionism
AH-330 Why Is That Art? 1945-Present
AH-492 Senior Thesis in Art History
AR-315 Women in Art

Secondary Emphasis Credit Total = 18-20
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Astronomy Secondary Emphasis

INTRO PHYSICS I
Take one of the following options below:

OPTION 1: (FALL TERM)
PC-200 General Physics I
PC-200L General Physics Lab I

OPTION 2: (FALL TERM)
PC-202 Intro Physics I
PC-202L Intro Physics Lab I

INTRO PHYSICS II
Take one of the following options below:

OPTION 1: (SPRING TERM)
PC-201 General Physics II
PC-201L General Physics Lab II

OPTION 2: (SPRING TERM)
PC-203 Intro Physics II
PC-203L Intro Physics Lab II

REQUIRED CORE
Take the following courses:
AS-160 Measuring the Universe
AS-260 Observational Astronomy

ELECTIVES
Take 6 additional credits from the courses listed below:
AS-300 Chile: Southern Stars I
AS-301 Chile: Southern Stars II

AS-355 Astronomy Research
AS-360 Advanced Observational Methods
AS-430 Astrophysics I
AS-431 Astrophysics II
AS-455 Astronomy Capstone

CONN-310 Revolution! Part 1
CONN-311 Revolution! Part 2

**Courses in Geology, Biology, Chemistry, Data Science, and possibly other disciplines may be approved as electives if they have a substantial astronomy content or are closely related to astronomy topics.

Secondary Emphasis Credit Total = 22
Any course exception must be approved by the advisor and/or department chair.

Bioethics Secondary Emphasis

REQUIRED CORE COURSES
Take one of the following courses:
PL-105 Introduction to Logic
PL-208 Symbolic Logic

Take one of the following courses:
PL-235 Ethics of Health Care
IC-292 Justice and Global Health

Take one of the following courses:
PL-250 Science and Human Values
PL-260 Philosophy of Science

ELECTIVES
Complete 7 credits from the following courses:
BI-270 Infectious Disease & Society
HS-313 Disease, Medicine & Empire
HS-314 Medieval Medicine
IC-203 Genomics, Ethics & Society
PL-205 Ancient Philosophy
PL-270 Ethical Theory
PL-304 Existentialism
RU-275 Medicine and Literature

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Biology Secondary Emphasis

CORE COURSES
Take the following courses:
BI-101 General Biology I
BI-102 General Biology II
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab
CH-232 Organic Chemistry I
CH-233 Organic Chemistry I Lab

UPPER-LEVEL COURSES
Complete 2 courses from the BI - Biology department at the 300/400 level. One of the upper-level courses must have a lab. NOTE: These courses cannot be included in a student's POE.

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Chemistry Secondary Emphasis

CHEMISTRY CORE
Complete a minimum of 22 credits with a CH-Chemistry designation.

At least three of the credits must be at the 300 or 400 level.

At least three of the credits cannot be counted towards another POE.

At least three out of five sub-disciplines of chemistry must be represented beyond the level of introductory

ICP courses (CH 142, 143, 144, and 145). Areas include: Analytical, Inorganic, Organic and Physical Chemistry plus Biochemistry.

Example of Chemistry Secondary Emphasis coursework (representative only - other combinations are possible)
CH-142 Integrated Chemistry Principles I
CH-143 Integrated Chem Principles I Lab
CH-144 Integrated Chemistry Principles II
CH-145 Integrated Chemistry Principles II Lab
CH-232 Organic Chemistry I
CH-233 Organic Chemistry I Lab
CH-252 Analytical Chemistry
CH-312 Biochemistry
CH-372 Instrumental Methods

Secondary Emphasis Credit Total = 22
At least three of the credits have to be at the 300 or 400 level. Any course exception must be approved by the advisor and/or department chair.

Communication Secondary Emphasis

COMMUNICATION CORE
Take three of the following courses below:
CM-130 Introduction to Human Communication
CM-132 Message Analysis
CM-133 Mass Media and Society
CM-200 Art of Public Speaking

UPPER-LEVEL CORE
Take at least 6 credits of 300 or 400 level CM-Communication courses.

ADDITIONAL ELECTIVE COURSE
Take one additional CM-Communication course at any level.

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Computer Programming Secondary Emphasis

CORE COURSES
Take the following courses:
CS-110 Computer Science I
CS-220 Computer Organization
CS-240 Computer Science II
MA-116 Discrete Structures

PROGRAMMING CORE
Take the following course:
CS-255C C++ Programming

UPPER-LEVEL COMPUTER SCIENCE CORE
Take one of the following courses below:
CS-305 Software Models
CS-370 Database Management Systems

Take an additional 300 or 400 level CS - Computer Science course.

Secondary Emphasis Credit Total = 23
Three credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Computer Science Secondary Emphasis

CORE COURSES
Take the following courses:
CS-110 Computer Science I
CS-240 Computer Science II
CS-220 Computer Organization
CS-480 Computer Science Seminar I
MA-116 Discrete Structures

Take one of the following courses:
CS-315 Algorithms and Analysis
CS-330 Computer Graphics

Take one of the following courses:
CS-300 Software Engineering
CS-370 Database Management Systems

Take one upper-level CS-Computer Science elective.

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Criminal Justice Secondary Emphasis

REQUIRED CORE
Take the following courses:
SO-101 Introduction to Sociology
CJ-260 Introduction to Criminal Justice
SO-302 Social Deviance and Criminology

ELECTIVES
Take 9 credits from the following courses:
PS-190A Mock Trial
PS-190B Mock Trial

EN-239 Bloody Murder
HS-400 Crimes Against Humanity
PACS-105 Introduction to Conflict Resolution
PACS-110 Introduction to Peace & Conflict Studies
PL-106 Introduction to Ethics
PS-218 Public Policy & Admin.
PS-312 Constitutional Interpretation: Civil Rights
PS-334 Human Rights
PY-203 Abnormal Psychology
PY-205 Social Psychology
PY-410 Aggression and Prejudice
SO-203 Minority Experiences
SO-244 Drugs and Society
SO-320 Wealth, Power, & Society
CJ-362 Juvenile Justice

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Data Science Secondary Emphasis

DATA SCIENCE CORE
Take the following courses:
DS-110 Intro to Data Science
CS-110 Computer Science I

STATISTICS
Take one of the following courses:
MA-220 Introduction to Probability & Statistics
MA-205 Elementary Statistics
EB-211 Business Statistics
ESS-230 Environmetrics
ESS-309 Econometrics
SW-215 Integrated Research Methods & Stats II
PY-366 Research Methods & Statistics
BI-305 Biostatistics

ADDITIONAL COURSES
Take twelve credits from the following courses:
BI-314 Talk Nerdy to Me
BI-405 Bioinformatics Fundamentals
CS-315 Algorithms and Analysis
CS-341 Scientific Computing
CS-370 Database Management Systems
DS-242 Info Visualization
DS-210 Data Acquisition
DS-352 Machine Learning
DS-375 Big Data
DS-485 Data Science Research
MA-321 Multivariate Statistics
MA-325 Statistical Consulting
MA-341 Scientific Computing
ESS-330 Geographical Information Systems
ESS-335 Quantitative Ecology
IT-307 Project Management
IT-308 Innovations for Industry I

(OR) Upper-level research in any other field with sufficient data science content (instructor permission required)

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Digital Media Design Secondary Emphasis

CORE COURSES
Take one of the following courses:
AR-104 Design and Color
EN-273 Visual Literacy

CORE COURSES II
Take 9 credits from the following courses:
AR-290 Design Thinking
AR-375 Community Design Lab
AR-376 Business of Design
AR-393 Integrated Media Practicum
AR-496 Digital Media Capstone I
AR-497 Digital Media Capstone II

ADDITIONAL COURSES
Take 6 credits from the following courses:
AR-103 Beginning Drawing
AR-200 Beginning Painting
AR-203 Digital Photography I
AR-204 Digital Art I
AR-398 3D Computer Animation
CM-240 Introduction to Storytelling
CM-290 The Metaverse
CM-340 Intercultural Communication
CM-363 Digital Video Production I
CM-420E Digital Storytelling
CM-463 Digital Video Production II
DS-242 Info Visualization
EN-237 Constructing Identities
EN-306 Creative Nonfiction Writing
EN-374 Ethical Game Design
EN-376 Writing Across Media

Secondary Emphasis Credit Total = 18+

Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Economics Secondary Emphasis

ECONOMICS CORE
Take the following courses:
EB-105 International Economic Issues
EB-222 Principles of Macroeconomics
EB-223 Principles of Microeconomics

INTRODUCTORY STATISTICS
Take one of the following courses:
EB-211 Business Statistics
MA-220 Introduction to Probability & Statistics
MA-205 Elementary Statistics

UPPER-LEVEL CORE
Take two of the following courses:
EB-320 Intermediate Microeconomics
EB-321 Intermediate Macroeconomics
EB-325 Health Economics
EB-381 International Political Economy
EB-463 Financial Markets & Institutions
EB-465 Financial Theory and Analysis

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Education Secondary Emphasis

EDUCATION CORE
Take the following courses:
ED-110 Foundations of Education
ED-111 Foundations of Education Field Experience
ED-240 Introduction to Students with Exceptionalities

Complete one of the following options below:
OPTION 1:
ED-120 Child Development

OPTION 2:
ED-130 Adolescent Development

Take 8 additional credits from the ED- Education Department.

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

English Secondary Emphasis

ENGLISH REQUIREMENTS
In consultation with an English professor, complete 18 credits from the English Department.

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Entrepreneurship Secondary Emphasis

ENTREPRENEURSHIP CORE
Take the following courses:
EB-100 Introduction to Management
EB-106 Foundations of Entrepreneurship
EB-207 New Venture Creation
EB-307 New Venture Start-Ups

ELECTIVES
Take two additional EB - Accounting, Business & Economics courses.

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Environmental Studies Secondary Emphasis

ENVIRONMENTAL STUDIES CORE
Take 18 credits from the ESS Department (courses with an ESS prefix). Six credits must be at the 300/400 level.

Secondary Emphasis Credit Total = 18
Any course exception must be approved by the advisor and/or department chair.

Finance Secondary Emphasis

FINANCE CORE
Take the following courses:
EB-100 Introduction to Management
EB-131 Financial Accounting
EB-222 Principles of Macroeconomics
EB-236 Managerial Accounting

UPPER-LEVEL CORE
Take two of the following courses:
EB-36 Financial Management I
EB-362 Financial Management II

EB-363 Health Care Financial Management
EB-463 Financial Markets & Institutions
EB-465 Financial Theory and Analysis

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

French Secondary Emphasis

FRENCH CORE
Take 15 credit hours beyond the 210 level in consultation with an advisor who teaches French. All courses should be instructed in French and focus primarily on some aspect of the French language and/or Francophone cultures.
NOTE: Study abroad in a country or region where French is the primary language of instruction is recommended. Courses may include:

FR-210 French III
FR-230 Conversation
FR-237 Intermediate French Grammar
FR-260 French Civilization and Culture
FR-270 Francophone Civilization and Culture II
FR-287 African Migrant Experience
FR-299 Special Topics
FR-326 French Cinema
FR-331 The Craft of Translation
FR-399 Special Topics

Secondary Emphasis Credit Total = 18
Any course exception must be approved by the advisor and/or department chair.

Geology Secondary Emphasis

GEOLOGY CORE
Take the following courses:
GL-100A Environmental Geology
GL-204 History of Earth

Take an additional eleven Geology (GL) credits at the 200 level or higher.

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

History Secondary Emphasis

HISTORY CORE

Take five courses from the History & Art History Department, two of which must be at the level 300: (NOTE: One of the five courses must cover history outside of the US and Europe)

HS-104 Medieval Europe
HS-115 United States to 1877
HS-116 The U.S. Since 1877
HS-152 World History Since 1450
HS-199 Special Topics
HS-200 The Great War
HS-204 Australia/New Zealand
HS-208 Engineering, Empire, and the Environment
HS-213 History of Ireland
HS-215 Rome: Republic to Empire
HS-216 Civil Rights & Song
HS-217 The Lowcountry and the Gullah Culture
HS-262 North American Environmental History
HS-266 History of South Africa
HS-268 Sword & Scimitar: Islam & West 500-1300
HS-272 Natives & Colonists in Early N. America
HS-277 History of Food
HS-280 Victorian Science, Sexuality & Medicine
HS-293 Sophomore Colloquium
HS-299 Special Topics
HS-309 Civil War and Reconstruction
HS-312 The New South: 1877-1990
HS-313 Disease, Medicine & Empire
HS-314 Medieval Medicine
HS-317 Medicine in World War I
HS-319 Glorious Cause: American Revolutionary Era
HS-320 Interpreting Terrorism
HS-322 Women in Medieval Life
HS-325 The U.S. Since 1945
HS-363 Race, Power, and Gender in Southern Africa
HS-367 Women in Africa
HS-399 Special Topics
HS-499 Special Topics

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Human Resource Management Secondary Emphasis

HUMAN RESOURCE MANAGEMENT CORE
Take the following courses:
EB-100 Introduction to Management
EB-131 Financial Accounting
EB-202 Behavioral Analysis of Organizations
EB-371 Human Resource Management.

EB-379 Bargaining and Conflict Management

ADDITIONAL COURSES
Take one of the following courses:
PY-101 Introduction to Psychology
PY-205 Social Psychology
PY-303 Learning & Conditioning
PY-304 Cognitive Psychology
CM-131 Interpersonal Communication
CM-340 Intercultural Communication
CM-405A Women, Work & Identity
PACS-105 Introduction to Conflict Resolution
PACS-205 Conflict Intervention
PACS-305 Gender and Conflict

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Information Technology Secondary Emphasis

CORE COURSES
Take the following courses:
CM-200 Art of Public Speaking
CS-110 Computer Science I
IT-110 Principles of Information Technology
IT-210 Information Technology Systems
IT-307 Project Management
IT-308 Innovations for Industry I

THE METAVERSE
Take one of the following courses:
IT-290 The Metaverse
CM-290 The Metaverse

BUSINESS ELECTIVE
Take one course from the Business - EB Department.

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

International Business Secondary Emphasis

INTERNATIONAL BUSINESS CORE
Given the unique requirements built into the designated POE in International Business, a secondary emphasis should only be used in rare instances wherein the student has met most of the requirements for the designated, but somehow missed "something." For example, student did not go abroad. Please seek the advice of an ABE faculty member.

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

International Studies Secondary Emphasis

CORE COURSES
Take the following courses:
EB-105 International Economic Issues
PS-102 Introduction to International Politics

Take one of the following courses:
IS-104 Ideas & Power in the Modern World
PACS-105 Introduction to Conflict Resolution

Take one of the following courses:
IS-200 Politics & Culture of Modernization
PACS-110 Introduction to Peace & Conflict Studies

Take one of the following courses:
HS-320 Interpreting Terrorism
EB-381 International Political Economy
PS-334 Human Rights

Take two foreign language courses at the 200, 300 or 400 level or Study Abroad for at least one semester.

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Investing Secondary Emphasis

INVESTING CORE
Take the following courses:
EB-100 Introduction to Management
EB-140 Investing: Your Future
EB-222 Principles of Macroeconomics
EB-131 Financial Accounting
EB-340 Investing Analysis
EB-361 Financial Management I
EB-440 Portfolio Management I
EB-463 Financial Markets & Institutions

Secondary Emphasis Credit Total = 18

Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Legal Studies Secondary Emphasis

LEGAL STUDIES CORE
Take the following courses:
PS-101 Introduction to U.S. Government
PS-110 Exploring the Law
PL-105 Introduction to Logic

ELECTIVES
Complete 11 credits from the following courses (no more than three credits of PS-190A can be included in the Legal Studies Secondary Emphasis):
EB-105 International Economic Issues
EB-203 Introduction to Business Law
EB-204 Legal Regulation of Business
EB-379 Bargaining and Conflict Management
EB-399 Special Topics
ESS-337 Environmental Law
HS-115 United States to 1877
HS-116 The U.S. Since 1877
HS-325 The U.S. Since 1945
PACS-108 Mediation
PL-106 Introduction to Ethics
PS-102 Introduction to International Politics
PS-155 Lobbying
PS-190A Mock Trial
PS-190B Mock Trial
PS-311 Constitutional Interpretation: Powers of Government
PS-312 Constitutional Interpretation: Civil Rights
PS-313 Congress and Presidency
PS-320 Topics Political Philos & Jurisprudence
PS-334 Human Rights

Secondary Emphasis Credit Total = 20
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Management Secondary Emphasis

MANAGEMENT CORE
Take one of the following courses below:
EB-105 International Economic Issues
EB-222 Principles of Macroeconomics
EB-223 Principles of Microeconomics

ADDITIONAL COURSES
Take the following courses:
EB-100 Introduction to Management
EB-131 Financial Accounting
EB-202 Behavioral Analysis of Organizations

Take two EB courses at the 300/400 level: (except EB-490/EB-495)

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Marketing Secondary Emphasis

MARKETING CORE
Take the following courses:
EB-100 Introduction to Management
EB-131 Financial Accounting
EB-351 Marketing Management
EB-355 Marketing Strategies
EB-358 Marketing Research and Analytics
EB-359 Advertising & Promo Mgmt

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Mathematics Secondary Emphasis

MATHEMATICS COURSES

CORE COURSES:
Take the following courses:
MA-130 Calculus I
MA-230 Calculus II
MA-235 Calculus III
MA-160 Linear Algebra

STATISTICS CORE:
Take one of the following courses:
MA-205 Elementary Statistics
MA-220 Introduction to Probability & Statistics
EB-211 Business Statistics
PY-366 Research Methods & Statistics
SW-215 Integrated Research Methods & Stats II
BI-305 Biostatistics
ESS-230 Environmetrics
ESS-309 Econometrics

Complete one of the following options below:
OPTION 1:
MA-210 Foundations of Mathematics

(AND)

Take one 300 or 400 level Mathematics course (except MA-480 and MA-355)

OPTION 2:
Take two 300 or 400 level Mathematics courses (except MA-480 and MA-355)

Secondary Emphasis Credit Total = 25-26
Any course exception must be approved by the advisor and/or department chair.

Medical Humanities Secondary Emphasis

CORE COURSES
Take 20 credits from the following courses:
EN-217 Disability in Fiction
HS-280 Victorian Science, Sexuality & Medicine
HS-313 Disease, Medicine & Empire
HS-314 Medieval Medicine
HS-317 Medicine in World War I
BI-270 Infectious Disease & Society
PL-106 Introduction to Ethics
PL-235 Ethics of Health Care
CONN-303 Genomics, Ethics, and Society
CM-310 Understanding Health Inequity

Secondary Emphasis Credit Total = 20
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Museum Studies Secondary Emphasis

MUSEUM STUDIES CORE
Take one of the following courses:
AH-108 Cross Cultural Art 1
AH-113 Cross-Cultural Art 2

Take the following courses:
MM-391 Ethics and Museums
MM-393 Cultural Institutions & Community Audiences
CONN-394 Curating Art, History & Science
MM-482 Practical Skills in 3-D Storytelling I
MM-483 Practical Skills in 3-D Storytelling II

Secondary Emphasis Credit Total = 19
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Musical Understanding Secondary Emphasis

CORE COURSES
Take the following course:
MS-101 Music Fundamentals

CORE COURSES II
Take two of the following courses:
MS-110 Survey of Western Music
MS-116 World Musics and Cultures
MS-120 Architectural & Musical Forms
CONN-321 Musical Acoustics

ADDITIONAL COURSES
Take three of the following courses: (MS-110, MS-116, MS-120, and CONN-321 may be selected only if they were not used to satisfy the previous requirement)
MS-130 History of American Popular Music
MS-300 Music Theory I
MS-303 Music Theory II

Secondary Emphasis Credit Total = 18-21
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Musicmaking Secondary Emphasis

CORE COURSES
Take the following courses:
MS-101 Music Fundamentals
MS-300 Music Theory I

STUDIO COURSES
Complete six credits from the following courses (must be same selection/instrument for all six credits):
MU-111A Woodwind Studio
MU-111B Violin/Viola Studio
MU-111C Brass Studio
MU-111D Percussion Studio
MU-111E Piano Studio
MU-111F Voice Studio
MU-111G Guitar Studio
MU-111H Flute Studio
MU-111I Cello Studio
MU-111K Studio Jazz Improvisation Lessons
MU-111L Bass Studio
MU-111M Composition/Song Writing

ENSEMBLE COURSES
Complete six credits from the following courses (must be same selection/ensemble for all six credits). NOTE:

Students need to be in an ensemble every semester of on-campus study:
MU-191 Juniata College Symphonic Band
MU-341 Orchestra
MU-363 Jazz Ensemble
MU-380 Concert Choir

UPPER-LEVEL COURSE
Take the following course:
MU-495 Senior Recital

Secondary Emphasis Credit Total = 19-20
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Narrative Arts Secondary Emphasis

CORE COURSES
Take one of the following courses:
AR-104 Design and Color
EN-273 Visual Literacy

ADDITIONAL COURSES
Take 15 credits from the following courses:
AR-117 Intro to Sculpture
AR-200 Beginning Painting
AR-202 Water-Based Media Painting
AR-203 Digital Photography I
AR-204 Digital Art I
AR-208 Beginning Photography
AR-211 The Art of Bookmaking
AR-298 Mixed Media Animation
AR-300 Intermediate Painting
AR-400 Advanced Painting
AR-405 Advanced Ceramics
AR-455 Sr. Thesis in Art History
AR-456 Senior Research in Art History
DS-242 Info Visualization
CM-240 Introduction to Storytelling
CM-263 Digital Audio Production
CM-290 The Metaverse
CM-340 Intercultural Communication
CM-420E Digital Storytelling
EN-237 Constructing Identities
EN-306 Creative Nonfiction Writing
EN-374 Ethical Game Design
EN-376 Writing Across Media
EN-378 Video Production Writing
MS-101 Music Fundamentals
MS-116 World Musics and Cultures
MS-120 Architectural & Musical Forms
MS-130 History of American Popular Music
TH-121 Tai Chi, Level 2
TH-123 Jedi Academy
TH-161 Play/Making
TH-221 Acting I
TH-262 Solos
TH-325 Acting II
TH-405 Directing
TH-421 Acting III: Styles

Secondary Emphasis Credit Total = 18+
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Peace and Conflict Studies Secondary Emphasis

PEACE AND CONFLICT STUDIES CORE
Take the following courses:
PACS-105 Introduction to Conflict Resolution
PACS-110 Introduction to Peace & Conflict Studies

ADDITIONAL COURSES
Complete 12 additional credits from PACS department; six of which must be at the 300/400 level.

NOTE: Students must be able to defend the coherence and logic of their choices. Students should have a PACS professor as an advisor.

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Philosophy Secondary Emphasis

PHILOSOPHY COURSES
Take any 12 credits from the PL-Philosophy Department.

UPPER-LEVEL COURSES
Take an additional 6 credits at the 300 or 400 level from the PL-Philosophy Department.

Secondary Emphasis Credit Total = 18
Any course exception must be approved by the advisor and/or department chair.

Physics Secondary Emphasis

MATHEMATICS CORE
Take the following courses:
MA-130 Calculus I

MA-230 Calculus II
MA-235 Calculus III

PHYSICS CORE
Take the following courses:
PC-202 Intro Physics I
PC-202L Intro Physics Lab I
PC-203 Intro Physics II
PC-203L Intro Physics Lab II
PC-301 Modern Physics

UPPER-LEVEL PHYSICS
Take one additional course from the Physics Department at the 300/400 level.

Secondary Emphasis Credit Total = 26-27
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Politics Secondary Emphasis

POLITICS CORE
Take the following courses:
PS-101 Introduction to U.S. Government
PS-102 Introduction to International Politics

Take one of the following courses:
PS-221 American Political Thought
PS-222 Western Political Thought

ADDITIONAL COURSES
Take 12 additional credits from the Politics Department; at least three of these credits must be at the 300-level or above.

NOTE: No more than six credits of Internship can be included in your secondary emphasis. No more than six credits of Mock Trial can be included in your secondary emphasis. Global Climate Change counts as a Politics Department course.

Secondary Emphasis Credit Total = 24
At least three credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Professional and Creative Writing Secondary Emphasis

PROFESSIONAL AND CREATIVE WRITING COURSES
Take 18 credits from the following courses below. At least 6 of these credits must be at the 300-400 level.

EN-145 Peer Tutor Training
EN-147 Tutoring Writing & Speech
EN-208 Explorations in Creative Writing
EN-247 Writing for Change
EN-272 Introduction to Professional Writing
EN-273 Visual Literacy
EN-303 Poetry Writing
EN-305 Fiction Writing
EN-306 Creative Nonfiction Writing
EN-311 Professional News and Feature Writing
EN-315 Technical Writing
EN-374 Ethical Game Design
EN-376 Writing Across Media
EN-378 Video Production Writing
EN-379 Professional Editing
EN-490 English Internship
EN-495 Internship Seminar

Secondary Emphasis Credit Total = 18-20
Any course exception must be approved by the advisor and/or department chair.

Psychology Secondary Emphasis

PSYCHOLOGY COURSES
Take any 18 credits from the PY-Psychology Department. At least 6 of these credits must be at the 300-400 level. NOTE: One course from another department may be substituted in the 18-credit total with approval by the advisor and/or department chair.

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Public Health Secondary Emphasis

PUBLIC HEALTH CORE
Take the following courses:
PY-216 Public Health
SO-101 Introduction to Sociology
BI-290 Nutrition
CM-310 Understanding Health Inequity
PS-325 Health Policy
CONN-350 Community Health Advocacy

STATISTICS CORE
Take one of the following courses:
MA-205 Elementary Statistics
BI-305 Biostatistics

Secondary Emphasis Credit Total = 23

Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Race, Ethnicity, & Identity Studies Secondary Emphasis

CORE REQUIREMENTS
Take the following courses:
PY-205 Social Psychology
PY-211 Race, Ethnicity, and Identity Studies

ELECTIVES
Complete 12 credits from the following courses (6 credits must be at the 300 or 400 level):
AH-301 African-American Art: Slavery to Social Justice
CM-210 Race and Language in the United States
CM-405A Women, Work & Identity
SO-101 Introduction to Sociology
SO-203 Minority Experiences
MA-138 Mathematics and Democracy
PY-190 Introduction to Poverty Studies
PY-312 Cultural Psychology
EN-162 Women and Literature
EN-251 Slave Narratives
RL-265 U.S. Religious Diversity
HS-217 The Lowcountry and the Gullah Culture
HS-367 Women in Africa
PACS-305 Gender and Conflict
PACS-308 Nonviolence and Social Justice

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Religious Studies Secondary Emphasis

RELIGIOUS STUDIES CORE
Take the following course:
RL-123 Global Religions Today

ADDITIONAL COURSES
Take 16.00 additional credits from the Religion Department; at least 8.00 credits must be at the 300 or 400 level.

Secondary Emphasis Credit Total = 20
Eight credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Religious Studies and Philosophy Secondary Emphasis

CORE COURSES
Take the following courses:
PL-101 Introduction to Philosophy
RL-123 Global Religions Today

ADDITIONAL COURSES
Take three courses from the RL-Religious Studies or PL-Philosophy departments. At least 6 credits must be at the 300-400 level.

Secondary Emphasis Credit Total = 18
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Rural Experience Secondary Emphasis

RURAL EXPERIENCE CORE
Take the following courses:
PY-190 Introduction to Poverty Studies
HS-222 Archives: Theory, Practice, and Use
EN-203 Class/Status/Identity in US Literature
CONN-390 Environmental Voices I
CONN-391 Environmental Voices II

ELECTIVE COURSES
Take two of the following courses (a total of at least six credits):
AH-301 African-American Art: Slavery to Social Justice
BI-190 Human Biology
CM-310 Understanding Health Inequity
CONN-340 Extracting Appalachia
CONN-350 Community Health Advocacy
CONN-392 Justice and Global Health
EN-211 Pennsylvania Literature
EN-319 Writing for Social Change
ESS-206 Global Environmental Issues
HS-367 Women in Africa
PS-208 Policy and Community
SO-101 Introduction to Sociology
SW-231 Social Problems & Social Welfare

NOTE: Other courses, such as special topics courses, may be chosen with advisor/department chair approval.

Secondary Emphasis Credit Total = 19-21
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Social and Behavioral Health Services Secondary Emphasis

CORE COURSES
Take the following courses:
SO-101 Introduction to Sociology
SW-221 The Life Cycle
SW-230 Introduction to Social Work Practice
SW-330 Social Work Practice: Individual, Family & Small Groups Laboratory
SW-331 Social Work Practice: Individual, Family & Small Groups

MINORITY EXPERIENCES
Complete 3 credits from the following courses:
CM-210 Race and Language in the United States
PY-211 Race, Ethnicity, and Identity Studies
EN-203 Class/Status/Identity in US Literature
EN-217 Disability in Fiction
EN-237 Constructing Identities
PS-206 The Culture War
SO-203 Minority Experiences

PRACTICE FOCUS ELECTIVES
Take one of the following courses below:
CJ-362 Juvenile Justice
SO-244 Drugs and Society
SO-243 Death & Dying
SW-241 Children, Youth, and Family Services
PACS-105 Introduction to Conflict Resolution
PACS-108 Mediation
PY-190 Introduction to Poverty Studies
PY-203 Abnormal Psychology
CONN-350 Community Health Advocacy
PY-370 Intro Counseling Theories & Techniques

Secondary Emphasis Credit Total = 21
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Sociology Secondary Emphasis

SOCIOLOGY CORE
Take the following courses:
SO-101 Introduction to Sociology
SO-203 Minority Experiences
SW-231 Social Problems & Social Welfare
SW-214 Integrated Research Methods & Stats I
SW-215 Integrated Research Methods & Stats II
SW-333 Social Welfare Policies and Services
SO-401 Sociology Senior Seminar

Secondary Emphasis Credit Total = 21
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Spanish Secondary Emphasis

SPANISH CORE
Take 15 credit hours beyond the 210 level in consultation with an advisor who teaches Spanish. All courses must be instructed in Spanish and focus primarily on some aspect of the Spanish language and/or Hispanic cultures.

NOTE: Study abroad in a country or region where the target language is the primary language of instruction is recommended.

SP-230 Spanish Conversation & Composition
SP-235 Intermediate Spanish Grammar
SP-245 Spanish Phonetics & Phonology
SP-250 Introduction to Hispanic Literature
SP-255 Contemporary Hispanic Short Fiction
SP-257 Hispanic Pop Culture in Poetry
SP-260 Spanish Civilization
SP-265 Contemporary Spain
SP-271 Enrichment After-School for Youth-Spanish
SP-275 Art and Activism in Latin America
SP-285 Introduction to Latin America
SP-299 Special Topics
SP-305 Advanced Spanish Conversation & Comp
SP-345 Spanish Phonetics & Phonology
SP-355 Contemporary Hispanic Short Fiction
SP-357 Hispanic Pop Culture in Poetry
SP-365 Contemporary Spain
SP-375 Art and Activism in Latin America
SP-385 Intro to Latin America
SP-399 Special Topics
SP-400 Contemporary Spanish American Novel
SP-401 Gender Fiction in Hispanic Literature
SP-404 Hispanic Metafiction
SP-405 Cont. Spanish Novel
SP-420 Generation of 1898
SP-430 Advanced Spanish Grammar

Secondary Emphasis Credit Total = 15-26
Any course exception must be approved by the advisor and/or department chair.

Sport Management Secondary Emphasis

CORE COURSES
Take the following courses:

EB-100 Introduction to Management
EB-131 Financial Accounting
EB-202 Behavioral Analysis of Organizations
EB-377 Sports Management

ADDITIONAL COURSES
Take two of the following courses:
EB-382 Sport Analytics
EB-383 Sport Finance
EB-384 Athletics Event Management
EB-385 College Athletics & Administration

Secondary Emphasis Credit Total = 19
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Theatre Arts Secondary Emphasis

CORE COURSES
Take the following courses:
TH-221 Acting I
TH-262 Solos
TH-325 Acting II
TH-405 Directing

VISUAL & PERFORMING ARTS COURSES
Complete 6 credits from the following courses:
AR-117 Intro to Sculpture
AR-200 Beginning Painting
AR-202 Water-Based Media Painting
AR-203 Digital Photography I
AR-204 Digital Art I
AR-208 Beginning Photography
AR-211 The Art of Bookmaking
AR-215 Ceramic Sculpture
AR-225 Wheel Throwing
AR-298 Mixed Media Animation
AR-300 Intermediate Painting
AR-400 Advanced Painting
AR-405 Advanced Ceramics

Secondary Emphasis Credit Total = 18+
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Visual and Material Culture Studies Secondary Emphasis

VISUAL AND MATERIAL CULTURE STUDIES CORE
Take one course from each of the following categories:

ART HISTORY:
AH-108 Cross Cultural Art 1
AH-113 Cross-Cultural Art 2
AH-303 Reframing American Art to 1876
AH-311 Art of Ancient Peoples

ANTHROPOLOGY:
AN-151 Introduction to Anthropology
AN-255 Applied Archaeology

HISTORY:
HS-215 Rome: Republic to Empire
HS-217 The Lowcountry and the Gullah Culture
HS-277 History of Food
HS-280 Victorian Science, Sexuality & Medicine
HS-367 Women in Africa

UPPER-LEVEL COURSES
Take an additional 6 credits of AH, AN or HS courses at the 300 or 400 level.

Secondary Emphasis Credit Total = 18-24
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

Women and Gender Studies Secondary Emphasis

WOMEN AND GENDER STUDIES CORE
Take the following course:
PACS-305 Gender and Conflict

ADDITIONAL COURSES
Take 15 credits from the following courses (one course must be at the 300/400 level):
HS-280 Victorian Science, Sexuality & Medicine
HS-322 Women in Medieval Life
HS-367 Women in Africa
PS-209 Sexual Politics
PS-298 Gender and Health Care
CM-310 Understanding Health Inequity
CM-405A Women, Work & Identity
EN-162 Women and Literature
EN-215 Boys Will Be Boys
EN-385 Queer Literature
SW-241 Children, Youth, and Family Services
SO-203 Minority Experiences
PY-211 Race, Ethnicity, and Identity Studies
RL-250 Women in the Bible
RL-265 U.S. Religious Diversity
SP-401 Gender Fiction in Hispanic Literature

Secondary Emphasis Credit Total = 18-19
Six credits must be at the 300/400-level. Any course exception must be approved by the advisor and/or department chair.

CERTIFICATES

Certificates are credit-bearing programs that certify satisfactory completion of an organized program of study. New certificates programs must be approved by the Department and Program Committee. All new certificate program applications to the Department and Program Committee must be made after consultation with departments that house the certificate courses and the Provost.

Undergraduate Certificates

All certificates will consist of a minimum of 18 credit hours. Certificates may be of different lengths, as defined by National Center for Education Statistics (NCES) standards:

- Short-term Certificates - Less than 1 academic year or less than 30 semester credit hours.
- Moderate-term Certificates - At least 1 but less than 2 academic years or At least 30 but less than 60 semester credit hours.
- Long-term Certificates - At least 2 but less than 4 academic years or 60 or more semester credit hours.

All pre-requisite courses must be part of the credit count for the certificate.

The certificate degree will have a separate status, separate paperwork, and will be recorded separately on the student's transcript.

Sub-baccalaureate Certificate Degree Requirements

Students wishing to earn a certificate must have a 2.0 grade average or above in their certificate courses.

When students seeking a B.A. or B.S. degree at Juniata are also enrolled in a certificate program, the policies and procedures regarding matriculation requirements, course registration policies, and graduation application guidelines remain the same. Students seeking a certificate must submit a faculty-approved, final version of the certificate form to the Office of the Registrar. Certificates may overlap with POE coursework.

However, if a student wishes to get a certificate and a secondary emphasis, there must be a minimum of 15 credits in the certificate that do not overlap with the secondary emphasis.

For students who enroll in certificate programs as a standalone degree, policies and procedures will be determined administratively with the on-going consultation of the Executive Committee.

Digital Humanities Certificate

BREADTH REQUIREMENT:
Complete three courses from three different disciplines below:
AN-255 Applied Archaeology
AR-102 Principles of Digital Media
AR-104 Design and Color
AR-203 Digital Photography I
AR-204 Digital Art I
AR-298 Mixed Media Animation
AR-375 Community Design Lab
EN-273 Visual Literacy
EN-374 Ethical Game Design
EN-376 Writing Across Media
EN-378 Video Production Writing
DS-242 Info Visualization
CM-263 Digital Audio Production
CM-341 Intermediate Media Practice
CM-363 Digital Video Production I
CM-463 Digital Video Production II
MU-111M Composition/Song Writing
ND-271 3D Design, Scanning & Printing
ND-311 Digital Ethics
RL-210 Sacred Landscapes
CM-420E Digital Storytelling
HS-309 Civil War and Reconstruction
HS-367 Women in Africa

DEPTH REQUIREMENT:
Complete three additional courses within a single humanities department from the list below: (When a desired Digital Humanities topic is not represented, an Independent Study may be substituted with approval of a Digital Humanities advisor)
AN-255 Applied Archaeology
AR-102 Principles of Digital Media
AR-104 Design and Color
AR-203 Digital Photography I
AR-204 Digital Art I
AR-298 Mixed Media Animation
AR-375 Community Design Lab
EN-273 Visual Literacy
EN-374 Ethical Game Design

EN-376 Writing Across Media
EN-378 Video Production Writing
DS-242 Info Visualization
CM-341 Intermediate Media Practice
CM-363 Digital Video Production I
CM-463 Digital Video Production II
MU-111M Composition/Song Writing
ND-271 3D Design, Scanning & Printing
ND-311 Digital Ethics
RL-210 Sacred Landscapes
CM-420E Digital Storytelling
HS-309 Civil War and Reconstruction
HS-367 Women in Africa

CAPSTONE:
A self-designed Independent Study with a Digital Humanities instructor is required. The Independent Study must highlight the knowledge and skills of the certificate seeker.

Certificate Credit Total = 21 or more
Any course exception must be approved by Amy Mathur.

Genomics, Ethics, and Society Certificate

CORE COURSES
GENOMICS, ETHICS & SOCIETY:
Complete one of the following courses:
IC-203 Genomics, Ethics & Society
CONN-303 Genomics, Ethics, and Society

MOLECULAR BIOLOGY, GENETICS & GENOMICS:
Complete one of the following courses:
BI-101 General Biology I
BI-190 Human Biology

STATISTICS:
Complete one of the following courses:
BI-305 Biostatistics
MA-205 Elementary Statistics
MA-220 Introduction to Probability & Statistics

GENOMICS CORE COURSES
Complete one of the following courses: (students enrolled in BI-331 must also complete BI-332)
BI-316 Advanced Molecular and Cellular Biology
BI-317 Principles of Genetics
BI-331 Molecular Microbiology
BI-332 Molecular Microbiology Lab
BI-400 Environmental Genomics
BI-437 Molecular Ecology
BI-470 Practical Genomics
BI-481 Medical Genomics Research Methods
BI-489 Biology Research

INFORMATICS CORE COURSES
Complete one of the following courses: (students enrolled in CS-255U must also complete CS-255Y)
BI-405 Bioinformatics Fundamentals
BI-471 Applied Bioinformatics
CS-110 Computer Science I
CS-240 Computer Science II
CS-255U Unix Programming
CS-255Y Python Programming
DS-110 Intro to Data Science

ELSI ELECTIVES:
Complete three of the following courses/minimum 9-12 credits: (Students enrolled in EB-375 must also complete EB-120)
CM-310 Understanding Health Inequity
CONN-312 Science and Society
CONN-313 Science Policy
CONN-350 Community Health Advocacy
EB-375 21st Century Leadership
EN-217 Disability in Fiction
EN-247 Writing for Change
ESS-206 Global Environmental Issues
HS-313 Disease, Medicine & Empire
HS-314 Medieval Medicine
PACS-305 Gender and Conflict
PL-235 Ethics of Health Care
PL-265 Environmental Ethics
PS-298 Gender and Health Care
PY-211 Race, Ethnicity, and Identity Studies
SO-305 Gender and Society

Certificate Credit Total = 18-21
Any course exception must be approved by the Director of Bioinformatics.

Geographical Information Systems Certificate

QUANTITATIVE FIELD INTRO
This section requires the student to have a quantitative introductory class in their field. The requirement of this course is that it has a lab or quantitative section where Excel or other spreadsheet or database program is used to compile and represent or analyze data.

Complete one course from either track below:
ENVIRONMENTAL TRACK:
ESS-100 Environmental Systems I

IT TRACK:
IT-111 Principles of IT Science
CS-110 Computer Science I

STATISTICS or DATA ANALYSIS CORE
Complete one course from either track below:
ENVIRONMENTAL TRACK:
ESS-230 Environmetrics
BI-305 Biostatistics

IT TRACK:

GEOGRAPHICAL INFORMATION CORE
Take the following courses below:
ESS-330 Geographical Information Systems
ESS-377 GIS Advanced Topic

FIELD DATA COLLECTION
This section is intended to have students exposed to the vagaries of field data collection. It is preferred that students collect spatially explicit data using GPS technologies or other spatially explicit survey methods. Database Management or other courses that explore the process of data collection will also meet this requirement.

Complete one course from either track below:
IT TRACK:
CS-370 Database Management Systems

ENVIRONMENTAL TRACK:
BI-300 General Ecology
ESS-328 Limnology
ESS-340 Forestry
ESS-345 Ichthyology
ESS-350 Field Research Methods
GL-240 Geological Field Methods I

CAPSTONE OR PROJECT REQUIREMENT
Complete one of the following tracks below:

(OPTION 1) - IT TRACK:
IT-307 Project Management
IT-308 Innovations for Industry I
IT-380 Innovations for Industry II

(OPTION 2) - IT TRACK:
IT-307 Project Management
IT-308 Innovations for Industry I
IT-480 Innovations for Industry III

ENVIRONMENTAL TRACK:
ESS-410 Water Resources II

Certificate Credit Total = 18-21
Any course exception must be approved by Dr. Neil Pelkey.

Post-Baccalaureate Certificates

Graduate Certificate in Bioinformatics

CORE COURSES

Take one of the following courses below:
BIN-500 Bioinformatics Fundamentals
BIN-517 Principles of Genetics
BIN-570 Practical Genomics

Take one of the following courses below:
DS-500 Data Science Fundamentals
DS-510 Computer Science Fundamentals

BIOINFORMATICS RESEARCH
Take the following course:
BIN-599 Bioinformatics Special Topics Course

Certificate Credit Total = 10-11
Any course exception must be approved by Dr. Regina Lamendella.

Graduate Certificate in Community Health & Health Communication

CORE COURSES

Take the following courses:
MPH-530 Program Planning/Evaluation/Management
MPH-531 Innovative Health Communication
MPH-533 Engagement for Sustainable Health
MPH-535 Health & Media Literacy

Certificate Credit Total = 12-13
Any course exception must be approved by Tia Warrick, Director of Public Health.

Graduate Certificate in Data Analytics

CORE COURSES

Take the following courses:
DS-500 Data Science Fundamentals
DS-525 Data Acquisition & Visualization

Complete one of the following options below:

OPTION 1 (Conditional):
DS-530 Multivariate Techniques

OPTION 2 (Strongly Recommended):
DS-570 Database Systems

Certificate Credit Total = 10
Any course exception must be approved by Dr. Henry Escuadro.

Graduate Certificate in Ecological Field Methods & Monitoring

CORE COURSES

Take the following courses:
ENRM-526 Wildlife Techniques
ENRM-534 Plant Conservation Practicum
ENRM-540 Watershed Monitoring
ENRM-570 Field Herpetology

Certificate Credit Total = 10
Any course exception must be approved by Dr. Uma Ramakrishnan.

Graduate Certificate in Epidemiology & Clinical Research

CORE COURSES

Take the following courses:
MPH-501 Research Methods & Epidemiologic Studies
MPH-502 Biostatistics & Health Informatics
MPH-510 Ethics & Conduct of Research
MPH-512 Intermed Epi. & Clinical Research Methods

Certificate Credit Total = 12-13
Any course exception must be approved by Tia Warrick, Director of Public Health.

Graduate Certificate in Health Policy & Administration

CORE COURSES

Take the following courses:
MPH-500 Health Policy & US Health System
MPH-520 Global Health Policy Systems
MBA-521 Health Economics
MPH-524 Population Health & Health Reform

Certificate Credit Total = 12-13
Any course exception must be approved by Tia Warrick, Director of Public Health.

Graduate Certificate in Leadership

CORE COURSES

Take the following courses:
MBA-502 21st Century Leadership
MBA-512 Organizational Behavior
MBA-531 Professional Ethics & Social Responsibility
MBA-571 Strategic HR Management & People Analytics

Certificate Credit Total = 12
Any course exception must be approved by Dr. Dom Peruso.

Special Academic Programs

COOPERATIVE PROGRAMS

Health Professions Affiliations

A distinctive feature of the Juniata College Health Professions Program is a broad array of formal affiliation agreements. These agreements enable qualified students to gain early acceptance or accelerated admission into professional school programs.

Several types of programs are included, designated below by the number of years a student spends at Juniata College, followed by the number of years spent at the affiliated institution. The 3 + _ programs allow students who matriculate at Juniata for three years and complete all the Juniata College general degree requirements, to earn degrees from both Juniata College and the corresponding professional institution.

See the specific career track on the Health Professions website for details.

Chiropractic
4 + 3 B.S./D.C. program or 3 + 3 B.S./D.C. program with the Northeast College of Health Sciences

Dentistry
4 + 4 B.S./D.M.D. Early Acceptance program with the LECOM School of Dental Medicine

Medicine
4 + 4 B.S./D.O. Early Assurance Program with Lake Erie College of Osteopathic Medicine

4-year Lawrence Johnson Scholarship at the University of Rochester School of Medicine and Dentistry

Occupational Therapy
3 + 2 B.S./M.S.O.T. program with Jefferson School of Health Professions

Optometry
Regular Progression (4 years at Juniata) or 3 + 4 B.S./O.D. program with the Pennsylvania College of Optometry at Salus University

Pharmacy
Regular Progression (4 years at Juniata) or 3 + 3 or 3 + 4 Accelerated or 4 + 3 or 4 + 4 Early Acceptance B.S./Pharm.D. programs with Lake Erie College of Osteopathic Medicine School of Pharmacy

Physical Therapy
Guaranteed Interview at Thomas Jefferson University DPT Program

Engineering: 3+2 Program

Juniata participates with Columbia University, The Pennsylvania State University, and Washington University in cooperative programs in engineering. The purpose of such arrangements is to produce engineers who are educated in the fullest sense, as well as competent specialists in a particular field.

The student takes three years of undergraduate work at Juniata. then transfers to the engineering institution for two additional years of study. Upon successful completion of the program, the student receives two degrees; a Bachelor of Science degree from Juniata and an engineering degree from the partner institution.

Law: 3+3 Program

The pre-legal student should seek a broad undergraduate experience in the liberal arts. Although students may develop any Program of Emphasis which suits their talents and interests, English, history, politics, American studies, and economics are the most common programs of students entering law schools.

In addition to helping students through the process of applying to law school, the prelaw advisor assists with course selections that will fulfill their POE goals while providing them with appropriate skills for the study of law. In addition, the advisor helps to provide students with resources to prepare for the LSAT and helps to arrange internships that allow students to explore the legal field. Students should plan to take the LSAT in the fall of the senior year and apply to law school by mid-January.

A special arrangement with the Duquesne University School of Law allows students to apply for admission after three years of undergraduate study, allowing them to

complete their degrees in six rather than seven years.

International Partner Degree Programs

Juniata partners with multiple international universities with whom we have exchange partnerships to offer dual degree programs in which exchange students can earn a Juniata bachelor's degree and at their home university. The students must complete two semesters at Juniata and special set of requirements as detailed in the Partner Degree Manual. Upon successful completion of these requirements as well as their home university degree, the student earns their Juniata bachelor's degree.

Accelerated Dual Degrees

At Juniata, students can complete a 3-year bachelor's program in select areas and then continue into a master's program. With this pathway, students complete both a bachelor's and a master's degree in just 4 years. To complete both a bachelor's degree and master's degree by the end of year 4, students would need to take 5 to 6 classes per semester with each academic year consisting of three semesters.

Students must apply for this program during the senior year of High School by applying to Juniata via the Common Application or the Juniata Application. To qualify for this program, students must express interest and have a high school GPA of 3.5 or above.

- BA - Accelerated Communication & Conflict Resolution + Master of Business Administration
- BA - Accelerated Communication & Conflict Resolution + Master of Organizational Leadership
- BA - Accelerated Communication + Master of Business Administration
- BA - Accelerated Communication + Master of Organizational Leadership
- BA - Accelerated Communication Advocacy + Master of Business Administration
- BA - Accelerated Communication Advocacy + Master of Organizational Leadership
- BA - Accelerated Art & Design + Master of Business Administration
- BA - Accelerated Art & Design + Master of Organizational Leadership
- BA - Accelerated Media Studies and Production + Master of Business Administration
- BA - Accelerated Media Studies and Production + Master of Organizational Leadership
- BA - Accelerated Spanish/Hispanic Cultures + Master of Business Administration
- BA - Accelerated Spanish/Hispanic Cultures + Master of Organizational Leadership
- BA - Accelerated Strategic Communication + Master of Business Administration
- BA - Accelerated Strategic Communication + Master of Organizational Leadership
- BS - Accelerated Accounting + Master of Accounting
- BS - Accelerated Accounting + Master of Business Administration
- BS - Accelerated Accounting + Master of Organizational Leadership
- BS - Accelerated Business Analytics + Master of Business Administration
- BS - Accelerated Business Analytics + Master of Organizational Leadership
- BS - Accelerated Business Information Technology + Master of Business Administration
- BS - Accelerated Business Information Technology + Master of Organizational Leadership
- BS - Accelerated Chemistry + Master of Business Administration
- BS - Accelerated Chemistry + Master of Organizational Leadership
- BS - Accelerated Economics + Master of Business Administration
- BS - Accelerated Economics + Master of Organizational Leadership
- BS - Accelerated Entrepreneurship + Master of Business Administration
- BS - Accelerated Entrepreneurship + Master of Organizational Leadership

- BS - Accelerated Environmental Science + Master of Applied Ecology & Natural Resource Management
- BS - Accelerated Environmental Studies + Master of Applied Ecology & Natural Resource Management
- BS - Accelerated Environmental Studies + Master of Business Administration
- BS - Accelerated Environmental Studies + Master of Organizational Leadership
- BS - Accelerated Finance + Master of Accounting
- BS - Accelerated Finance + Master of Business Administration
- BS - Accelerated Finance + Master of Organizational Leadership
- BS - Accelerated Fisheries & Aquatic Sciences + Master of Applied Ecology & Natural Resource Management
- BS - Accelerated Healthcare Administration + Master of Business Administration
- BS - Accelerated Healthcare Administration + Master of Organizational Leadership
- BS - Accelerated Human Resource Management + Master of Business Administration
- BS - Accelerated Human Resource Management + Master of Organizational Leadership
- BS - Accelerated International Business + Master of Business Administration
- BS - Accelerated International Business + Master of Organizational Leadership
- BS - Accelerated Management + Master of Business Administration
- BS - Accelerated Management + Master of Organizational Leadership
- BS - Accelerated Marketing + Master of Business Administration
- BS - Accelerated Marketing + Master of Organizational Leadership
- BS - Accelerated Psychology + Master of Business Administration
- BS - Accelerated Psychology + Master of Organizational Leadership
- BS - Accelerated Sport Management + Master of Business Administration
- BS - Accelerated Sport Management + Master of Organizational Leadership
- BS - Accelerated Wildlife Conservation + Master of Applied Ecology & Natural Resource Management

Graduate Degrees

Graduate Programs of Study

MASTER OF ACCOUNTING

CORE COURSES
Take the following courses:
AC-532 Corporate Taxation
AC-533 Government and Non-Profit Accounting
AC-534 Advanced Accounting
AC-535 Auditing
AC-536 Federal Taxation of Individuals
AC-537 Cost Accounting
AC-538 Forensic Accounting
AC-539 Accounting Research

ECONOMICS ELECTIVE
Take one of the following courses below:
AC-563 Financial Markets & institutions
AC-564 Financial Theory & Analysis
MBA-521 Health Economics
MBA-523 Managerial Economics

MBA OR DATA SCIENCE ELECTIVE
Take one 500 level MBA or Data Science course.

Program Credit Total = 30
Any course exception must be approved by Dr. Dom Peruso.

MASTER OF APPLIED ECOLOGY AND NATURAL RESOURCE MANAGEMENT

CORE COURSES

FIELD & LAB TECHNIQUES CORE:
Take the following courses:
ENRM-526 Wildlife Techniques
ENRM-534 Plant Conservation Practicum
ENRM-540 Watershed Monitoring
ENRM-570 Field Herpetology

ANALYSIS CORE:
Take the following courses:
ENRM-535 Advanced Quantitative Ecology
ENRM-577 Geospatial Ecology & Remote Sensing

WRITING CORE:
Take the following courses:
BIN-510 Scientific Grant Writing

POLICY & PLANNING CORE:
Take the following courses:
ENRM-537 Environmental Policy & Planning

ELECTIVE PLANT COURSES
Take one of the following courses below:
ENRM-533 Advanced Plant Ecology
ENRM-536 Advanced Plant Diversity

ADVANCED ELECTIVE
Take one the following courses below:
ENRM-512 Altered Ecosystems
ENRM-525 Advanced Conservation Biology

CAPSTONE EXPERIENCE
Take the following courses. (A minimum of 4.00 credits is required)
ENRM-597 Applied Ecology & Natural Resource Management Capstone I
ENRM-598 Applied Ecology & Natural Resource Management Capstone II

Program Credit Total = 35-37
Any course exception must be approved by Dr. Uma Ramakrishnan.

MASTER OF BIOINFORMATICS

CORE COURSES
Take the following courses:
BIN-500 Bioinformatics Fundamentals
DS-510 Computer Science Fundamentals
BIN-517 Principles of Genetics
DS-520 Statistics Fundamentals

ELECTIVES
Complete 11 credits from the following courses below:
COMPUTATIONAL:
DS-500 Data Science Fundamentals
DS-516 Mathematics Fundamentals
DS-525 Data Acquisition & Visualization
DS-530 Multivariate Techniques
DS-552 Data Mining
DS-570 Database Systems
DS-575 Big Data Techniques

BIOTECHNOLOGY:
BIN-510 Scientific Grant Writing
BIN-537 Molecular Ecology
BIN-561 Medical Genetics
BIN-570 Practical Genomics
BIN-571 Applied Bioinformatics
BIN-572 Biotechnology
BIN-599 Bioinformatics Special Topics Course
BIN-600 Environmental Genomics
BIN-INS Bioinformatics Independent Research

PUBLIC HEALTH:
MPH-501 Research Methods & Epidemiologic Studies
MPH-502 Biostatistics & Health Informatics
MPH-510 Ethics & Conduct of Research
MPH-511 Design & Conduct of Clinical Trials
MPH-512 Intermed Epi. & Clinical Research Methods
MPH-513 Analysis of Discrete Data
MPH-514 Epidemiologic Analysis of Disease
MPH-515 Regression/Prediction/Survival Analysis

CAPSTONE EXPERIENCE
Take one of the following courses below:
BIN-581 Bioinformatics Capstone
DS-580 Data Science Capstone

Program Credit Total = 30-32
Any course exception must be approved by Dr. Regina Lamendella.

MASTER OF BUSINESS ADMINISTRATION

CORE COURSES
Take the following courses:
MBA-511 Quantitative Analysis & Research Methods
MBA-512 Organizational Behavior
MBA-520 Strategic Marketing Management
MBA-523 Managerial Economics

MBA-531 Professional Ethics & Social Responsibility
MBA-532 Financial Reporting
MBA-580 Project Management and Cntg
MBA-590 International Business Strategy

ELECTIVE OPTIONS
Complete one of the following concentrations below:

CONCENTRATION IN HEALTH ADMINISTRATION:
Take 12 credits from the following courses:
MBA-521 Health Economics
MBA-561 Healthcare Operations
MBA-562 Healthcare Financial Management
MBA-563 Healthcare Strategy

CONCENTRATION IN ACCOUNTING:
Take 12 credits from the following courses:
AC-532 Corporate Taxation
AC-533 Government and Non-Profit Accounting
AC-534 Advanced Accounting
AC-535 Auditing
AC-536 Federal Taxation of Individuals
AC-537 Cost Accounting
AC-538 Forensic Accounting
AC-539 Accounting Research

CONCENTRATION IN DATA SCIENCE:
Take 12 credits from the following courses:
DS-500 Data Science Fundamentals
DS-510 Computer Science Fundamentals
DS-516 Mathematics Fundamentals
DS-520 Statistics Fundamentals
DS-525 Data Acquisition & Visualization
DS-530 Multivariate Techniques
DS-552 Data Mining
DS-570 Database Systems
DS-575 Big Data Techniques

CONCENTRATION IN BUSINESS ADMINISTRATION:
Take 12 credits from the following courses:
MBA-502 21st Century Leadership
MBA-541 Operations & Information Management
MBA-521 Health Economics
MBA-542 Entrepreneurial Management
MBA-561 Healthcare Operations
MBA-562 Healthcare Financial Management
MBA-563 Healthcare Strategy
MBA-571 Strategic HR Management & People Analytics
DS-500 Data Science Fundamentals
DS-510 Computer Science Fundamentals
DS-516 Mathematics Fundamentals
DS-520 Statistics Fundamentals
DS-525 Data Acquisition & Visualization
DS-530 Multivariate Techniques
DS-552 Data Mining
DS-570 Database Systems
DS-575 Big Data Techniques
AC-532 Corporate Taxation
AC-533 Government and Non-Profit Accounting
AC-534 Advanced Accounting
AC-535 Auditing
AC-536 Federal Taxation of Individuals
AC-537 Cost Accounting
AC-538 Forensic Accounting

Program Credit Total = 36
Any course exception must be approved by Dr. Dom Peruso.

MASTER OF DATA SCIENCE

CORE COURSES
Take the following courses:
DS-500 Data Science Fundamentals
DS-510 Computer Science Fundamentals
DS-516 Mathematics Fundamentals
DS-520 Statistics Fundamentals
DS-525 Data Acquisition & Visualization
DS-570 Database Systems
DS-580 Data Science Capstone

ELECTIVE COURSES
Complete 9 elective credits from the following courses:
DS-530 Multivariate Techniques
DS-552 Data Mining
DS-575 Big Data Techniques
MBA-511 Quantitative Analysis & Research Methods
MBA-531 Professional Ethics & Social Responsibility
BIN-500 Bioinformatics Fundamentals
BIN-580 Advanced Research Methods
BIN-600 Environmental Genomics
MPH-501 Research Methods & Epidemiologic Studies
MPH-502 Biostatistics & Health Informatics
MPH-513 Analysis of Discrete Data
MPH-515 Regression/Prediction/Survival Analysis
MPH-525 Health Policy Research/Analysis Methods

Program Credit Total = 30-32
Any course exception must be approved by Dr. Henry Escuadro.

MASTER OF EDUCATION IN SPECIAL EDUCATION

CORE COURSES

Take the following courses:
ED-501 Foundations of Special Education
ED-502 Special Education Law
ED-503 Understanding the Research in Special Ed

ELECTIVE COURSES
Take the following courses:
ED-504 Supporting Students w/Behavioral Needs
ED-505 Assessment: Using Data to Drive Decisions
ED-506 Effective Instruction for All
ED-507 Science of Reading
ED-508 Culturally Responsive Teaching
ED-509 Low Incidence Disabilities
ED-510 Capstone in Special Education

Program Credit Total = 30
Any course exception must be approved by Dr. Katie Hoffman.

MASTER OF ORGANIZATIONAL LEADERSHIP

CORE COURSES
Complete 27 credits from the following courses below:
ORG-501 Organizational Psychology
ORG-502 21st Century Leadership
ORG-510 Organizational Communication and Culture
ORG-511 Quantitative Analysis & Research Methods
ORG-512 Organizational Behavior
ORG-520 Strategic Marketing Management
ORG-530 Conflict and Change
ORG-531 Profsnl Ethics & Social Respnsblty
ORG-542 Entrepreneurial Management
ORG-571 Strategic HR Mgmt & People Analytics

CAPSTONE
Take the following course:
ORG-595 Capstone

Program Credit Total = 30
Any course exception must be approved by Dr. Dom Peruso.

MASTER OF PUBLIC HEALTH

CORE COURSES
Take the following courses:
MPH-500 Health Policy & US Health System
MPH-501 Research Methods & Epidemiologic Studies
MPH-502 Biostatistics & Health Informatics
MPH-503 Health Promotion/Communication/Community
MPH-504 Health Equity & Bias
MPH-505 Public Health Perspectives & Environment

EPIDEMIOLOGY & CLINICAL RESEARCH
Take the following courses:
MPH-510 Ethics & Conduct of Research
MPH-511 Design & Conduct of Clinical Trials
MPH-512 Intermed Epi. & Clinical Research Methods
MPH-513 Analysis of Discrete Data
MPH-514 Epidemiologic Analysis of Disease
MPH-515 Regression/Prediction/Survival Analysis

APPLIED PRACTICE & CULMINATING EXPERIENCE
Take the following courses:
MPH-540 Public Health Internship
MPH-541 Capstone Seminar
MPH-542 Research Investigation
MPH-543 Symposium in Public Health

Program Credit Total = 45
Any course exception must be approved by Dr. Tia Warrick.

Courses of Instruction

Undergraduate Courses

Course Type Key:

COURSE TYPE CODE	COURSE TYPE	CURRICULUM
CA	Cultural Analysis	Legacy (pre-2019)
CONN	Connections	Current (2019-present)
CS	Communication-Speech	Legacy (pre-2019)
CTDH	Digital Humanities Certificate	Current (2019-present)
CTGES	Genomics, Ethics, and Society Certificate	Current (2019-present)
CTGIS	Geographical Information Systems Certificate	Current (2019-present)
CW	Communication-Writing	Legacy (pre-2019)
F	Fine Arts	Legacy (pre-2019)
H	Humanities	Legacy (pre-2019)
I	International	Legacy (pre-2019)
IC	Interdisciplinary Colloquium	Legacy (pre-2019)
N	Natural Science	Legacy (pre-2019)
Q	Quantitative	Legacy (pre-2019)
QM	Quantitative-Mathematics	Legacy (pre-2019)
QS	Quantitative-Statistics	Legacy (pre-2019)
S	Social Science	Legacy (pre-2019)
SW-ER	Self & The World: Ethical Responsibility	Current (2019-present)
SW-GE	Self & The World: Global Engagement	Current (2019-present)
SW-LE	Self & The World: Local Engagement	Current (2019-present)
SW-US	Self & The World: U.S. Experience	Current (2019-present)
WK-CE	Ways of Knowing: Creative Expression	Current (2019-present)
WK-FR	Ways of Knowing: Formal Reasoning	Current (2019-present)
WK-HT	Ways of Knowing: Humanistic Thought	Current (2019-present)
WK-SI	Ways of Knowing: Social Inquiry	Current (2019-present)
WK-SP	Ways of Knowing: Scientific Process	Current (2019-present)

ART HISTORY (AH)

AH-001 Non-Credit Art History Internship *(0 credits)* Provides students an overview of an organization as well as providing and opportunity for practical application of the students' area of concentration. Note: See the chapter "Special Programs" under Internships; listed as Internship(Title); must be 6 weeks long. Prerequisite: Permission.

AH-108 Cross-Cultural Art 1 *(4 credits)* This course will examine art from around the world produced between the prehistoric era and the 14th century. We will consider perspectives for understanding cross-cultural encounters, examine the impact of cultural exchange on the development of art, and emphasize the

historical and global context of various artistic movements and artists. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109 *(F, I, SW-GE)*

AH-113 Cross-Cultural Art 2 *(4 credits)* This course will examine art from around the world produced between the 14th century and the present. We will 1) consider perspectives for understanding cross-cultural encounters in an increasingly diverse and interconnected world and 2) emphasize the historical and global context of various artistic movements & artists. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109 (NOTE: AR-108 Cross-Cultural Art 1 is NOT a prerequisite for this course.) *(F, I, SW-GE)*

AH-199 Special Topics in Art History *(1-4 credits)* Offers supplemental courses to the regular departmental course catalog, exploring topics and areas not regularly scheduled. Note: Students may take each special topics course for credit.

AH-295 Methods in Art History *(4 credits)* This course provides an introduction to the discipline of art history through an exploration of the many methodologies employed by art historians to understand works of art from the classical to the contemporary. Students will engage with the questions and debates that have shaped the field of art history through an examination of the discipline's rich and varied theoretical literature. *(F, I)*

AH-299 Special Topics in Art History *(1-4 credits)* Offers supplemental courses to the regular departmental course catalog, exploring topics and areas not regularly scheduled. Note: Students may take each special topics course for credit.

AH-301 Afr-Amer Art: Slavery to Social Justice *(4 credits)* Considers the work of African-American artists from the American colonial period to the present, seeking to understand the works of painting, sculpture and other media as the products of major cultural movements such as the New Negro Movement, Harlem Renaissance, and Civil Rights Movement, but also as the unique expressions of individual artists. Prerequisite: FYC-101 or EN-110 or EN-109. *(F, I, CA, CW, SW-US)*

AH-303 Reframing American Art to 1876 *(4 credits)* This course will introduce you to the ways in which American visual arts articulate cross-cultural encounters, from times of diverse Native groups, through later engagements with European colonizers, American slaves, and immigrants. We will look at how the historical experience of different groups is shaped and how those experiences are translated into art produced by artists of varied backgrounds. Prerequisite: FYC-101 or EN-110 or EN-109. *(F, H, SW-US)*

AH-304 Reframing American Art from 1876 *(4 credits)* This course will introduce you to painting, sculpture, photography, and architecture produced in the United States after 1876. We will consider the ways in which American artists negotiated questions of international influence, training, gender and race as the country began rebuilding its infrastructure and asserting a new international presence in the years following the Civil War. Prerequisite: FYC-101 or EN-110 or EN-109. *(F, H, SW-US)*

AH-309 Expanding the Renaissance *(4 credits)* This course will provide an understanding of Renaissance-era art by examining paintings, sculpture, and architecture. We will explore the sense of continuity among the works and discover how each work is uniquely individual; attempt to decenter Italy as the area with the most important artists of the period; and invite conversations that account for cultural interactions. Prerequisite: FYC-101 or EN-110 or EN-109. *(F, I, CW, WK-HT)*

AH-310 Global Baroque Art & Architecture *(4 credits)* The Baroque is a global style that appeared in various parts of the world in the 17th and 18th centuries. In this course, you will learn how styles developed/changed as a reaction to/against social, political, religious, economic, and aesthetic issues. You will compare

monuments from different parts of the world to gain an understanding of local meaning and cross-cultural connections. Pre-Req: FYC-101 or EN-110 or EN-109. *(F, I, CW, WK-HT)*

AH-311 Art of Ancient Peoples *(4 credits)* Studies art and architecture from Prehistory through Ancient Rome, with particular emphasis on architecture and sculpture and their purpose in cultural and political activities. Course will draw from art historical and archaeological approaches. Pre-req: FYC-101 or EN-110 or EN-109. (Previously titled as Ancient Art & Architecture.) *(F, I, WK-HT)*

AH-312 Medieval Art: Really a Dark Age? *(4 credits)* This course concentrates on the arts and architecture of Europe from 300 to 1250. Works are drawn from the late Antique, Byzantine, Migratory, Carolingian, Ottonian, Romanesque, and Gothic periods. Special emphasis on the relationship between religious, economic, social, and political forces and how they affected the arts of this era. Pre-Req: FYC-101 or EN-110 or EN-109. *(F, WK-HT)*

AH-313 Northern Renaissance Art *(4 credits)* Study of the arts in Northern Europe (mainly Germany and the Netherlands) in the 15th and 16th centuries with a particular focus on the patronage of mercantile centers and courts. Artists to be considered include Campin, Van Eyck, Van der Weden, Durer, Grunewald, Bosch, and Bruegel. *(F, I)*

AH-316 Art & Revolution: 19th Century Europe *(4 credits)* This course introduces major themes in 19th century European art, with an emphasis on French painting. We will consider revolutionary impacts on art; the Napoleonic presence abroad; the shift from history painting to realism; issues related to class and gender. Students will gain an understanding of the stylistic principles and historical contexts in which 19th-century art was created. Pre-Req: FYC-101 or EN-110 or EN-109 *(F, I, CS, WK-HT)*

AH-329 Impressionism to Abstract Expressionism *(4 credits)* This course investigates artistic developments that shaped the rise of Modernism in Europe and the U.S. from the late 19th-mid 20th century. We will discuss various media and consider the ways in which artists responded to changing cultural conditions. Students will develop a critical understanding of the discipline of art history and acquire the skills necessary to interpret/analyze visual imagery. Pre-Req: FYC-101 or EN-110 or EN-109. *(F, I, CW, WK-HT)*

AH-330 Why Is That Art? 1945-Present *(4 credits)* What makes something a work of art? Why do certain objects end up in museums? This course will answer those questions by surveying major artists and global movements from World War II through the present day. The impact of globalization on art and the predominance of socially engaged art in the 21st century will be considered. Pre-Req: FYC-101 or EN-110 or EN-109. *(F, I, WK-HT)*

AH-399 Special Topics in Art History *(1-4 credits)* Offers supplemental courses to the regular departmental course catalog, exploring topics and areas not regularly scheduled. Note: Students may take each special topics course for credit. Prerequisite or corequisite: FYC-101 or EN-110 or EN-109 *(F, H, I, WK-HT)*

AH-490 Art History Intern *(1-9 credits)* Corequisite: AH-495. Must have sophomore, junior, or senior standing.

AH-492 Senior Thesis in Art History *(3 credits)* Involves one full semester of research and writing. A thesis statement, bibliography, and outline are to be followed by a rough draft which is expected by mid-term. After revisions, the completed paper is due by the end of the semester. Students may choose to write about a specific work (or several works) of art, and relevant artists, styles, influences, etc. The thesis may be comparative, but it must be analytical. Instructor permission required. *(F, CW)*

AH-495 Internship Seminar *(1-6 credits)* Corequisite: AH-490. Requires sophomore, junior, or senior standing.

AH-499 Special Topics in Art History *(1-4 credits)* Offers supplemental courses to the regular departmental course catalog, exploring topics and areas not regularly scheduled. Note: Students may take each special topics course for credit.

AH-INS Art History Independent Study *(1-4 credits)*

AH-TUT Art History Teaching Assistant *(1-4 credits)*

ANTHROPOLOGY (AN)

AN-001 Non-Credit Sociology Internship *(0 credits)* Provides students an overview of an organization as well as providing an opportunity for practical application of the skill developed in students' area of concentration. Note: see the chapter "Special Programs under Internships; listed as Intern ship:(Title); must be 6 weeks long. Prerequisite: permission.

AN-151 Introduction to Anthropology *(3 credits)* Dedicated to the proposition that there are many ways of being human, all of which are adaptations to particular sets of environmental and historical conditions. Trends and highlights of the human experience, both physical and cultural, are studied from a sociocultural perspective. *(S, I)*

AN-199 Anthropology Special Topics *(1-4 credits)* Special topics course

AN-254 Archaeology & Human Prehistory *(3 credits)* Through readings, lectures, films, and discussions about a variety of archaeological sites, from Alaska to Zimbabawe, students are introduced to our earliest ancestors, to the diversity of prehistoric cultures, and to the origins of Western civilization. *(S, I)*

AN-255 Applied Archaeology *(3 credits)* Applied Archaeology follows a seminar format combined with active learning involving collaboration with community partners on historic preservation projects. This course introduces students to the study of the physical traces left by people in the past, emphasizing methods of identifying, documenting, curating, and analyzing historical sites and artifacts. Students study archaeological collections through an anthropological lens via laboratory and historical research techniques, including new technologies of the digital humanities. Pre- or Co-req: FYC-101 or EN-110 or EN-109. *(SW-LE, CTDH, H)*

AN-256 Historic Preservation *(3 credits)* Preserving the Past: Historic Preservation follows a seminar format presenting key themes related to historic preservation, cultural resource management, and public history. Community efforts to preserve historic sites are examined through the lens of heritage stewardship. Students consider local, state, and federal regulations related to preservation action, what makes old places "historic," and how historic sites are evaluated in the United States. Pre- or corequisite: FYC-101 *(SW-US)*

AN-299 Anthropology Special Topics *(1-4 credits)* Special topics course

AN-353 Archaeological Fieldwork *(1-4 credits)* An introduction to the ethics, principles and techniques of archaeological field research that includes a practicum with actual excavations on both prehistoric and historic sites. *(S)*

AN-399 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

AN-450 Archaeological Laboratory Research *(1-4 credits)* This course provides hands-on training and experience in the archaeology laboratory. Students engage in artifact identification, cataloging, database maintenance, material preservation, and collections curation. Artifact collections are processed according to state curation guidelines. Students participate in supervised laboratory data collection and recordation. Instructor permission required to enroll.

AN-490 Anthropology Internship *(1-9 credits)* Corequisite: AN-495. Requires sophomore, junior, or senior standing.

AN-495 Internship Seminar *(1-6 credits)* Corequisite: AN-490. Requires sophomore, junior, or senior standing.

AN-499 Special Topics *(1-4 credits)* Allows department to offer topics not normally offered. Prerequisites vary by topic.

AN-INS AN Independent Study *(1-4 credits)* See catalog under Independent Studies.

ART (AR)

AR-001 Non-Credit Art Internship *(0 credits)* Provides students an overview of an organization as well as providing an opportunity for practical application of the skill developed in students' area of concentration. Note: see the chapter under "Special Programs" under Internships. Internship must be at least 6 weeks long. Prerequisite: permission.

AR-102 Principles of Digital Media *(3 credits)* An introduction to the concepts of digital media. Students will develop an understanding of the basics of digital media, the technology surrounding the creation and use of digital media, and its association with art, communication, and information technology. Through a laboratory context of experimentation and discussion, the course explores the use of various creative software programs used to create artistic and expressive media content. The course provides an overview of media formats, media creation, the fundamental properties of the tools required for media manipulation, and insight into the artistic, social, psychological, and legal aspects of digital media. *(CTDH)*

AR-103 Beginning Drawing *(4 credits)* This course will explore the fundamental concerns as well as representational methods and concepts. Using line, shape, form, volumetexture, and the effective spatial organization of these elements, students will develop perceptual and technical skills to interpret form and space. Students will work with graphite and charcoal, pencil, ink, and other media. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109. *(F, WK-CE)*

AR-104 Design and Color *(3 credits)* The discipline of design is basic to all forms of visual art, including painting, drawing, photography, ceramics, and illustration. This course is designed to acquaint the student with the basic elements of picture structure: composition, line, shape, value, texture, color, scale, proportion, tension, and balance. *(F, CTDH)*

AR-117 Intro to Sculpture *(3 credits)* This course is an introduction to the foundational concepts and creation of sculpture. We will explore various techniques related to wood working, metal working, fiber arts, and glass casting; along with aesthetic, historical, and cultural considerations associated with 3-dimensional art. Through this course, students will begin developing their artistic voice by experimenting with and apply these concerns in their work. *(F, WK-CE)*

AR-125 Explorations in Clay *(3 credits)* This course introduces students to the basic techniques of hand-built ceramics. The fabrication techniques of pinching, coiling, and slabbing are combined with conceptual concerns of creating art pottery. Throughout the course of the semester students will develop their skills and understanding of Art both as a maker and as an audience. Pre- or Co-Req: FYC-101 or EN-110 or EN-109. *(F, WK-CE)*

AR-175 Introduction to Nature Photography *(3 credits)* This course is an introduction to nature photography. Students will learn to capture a balanced composition that represents elements of nature through digital photography. Prerequisite or corequisite: FYC-101. *(F, WK-CE)*

AR-199 Special Topics *(1-4 credits)* An introduction to one of the branches of art not currently included in the regular course offerings. Prerequisites will vary based on the course being offered. Special fees may apply.

AR-200 Beginning Painting *(4 credits)* Introductory course which investigates perceptual and technical aspects of painting which build off of Drawing, 2D Design and Art History. Students work in oil paint, learn various support construction, mediums, traditional methods (including making and altering paint chemistry) and color theory. Demonstration, reading, lectures and slide presentations supplement studio sessions and outside projects. Materials are ordered for the student. Taking an introductory level drawing course prior to enrollment in Basic Painting is highly encouraged (but not mandatory). Note: Drawing courses from high school may provide adequate preparation. Please contact the course instructor for more information. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109 *(F, WK-CE)*

AR-202 Water-Based Media Painting *(4 credits)* An introductory course that investigates perceptual and technical aspects of painting which build off of drawing, 2D design, and art history. Students work in water-based paint, learn various support construction, mediums, traditional methods (including making and altering paint chemistry), and color theory. Demonstration, reading, lectures, and slide presentations supplement studio sessions and outside projects. Materials are ordered for the student. Taking an introductory level drawing course prior to enrollment in painting class is highly encouraged (but not mandatory). Note: Drawing courses from high school may provide adequate preparation. Please contact the course instructor for more information. Pre- or Co-Req: FYC-101 or EN-110 or EN-109. *(F, WK-CE)*

AR-203 Digital Photography I *(4 credits)* This course focuses on photography and the creation of digital imagery. Students will learn to operate a DSLR camera and complete projects utilizing a variety of photographic techniques and genres. Students will learn to express visual concepts through photography while utilizing specific techniques unique to the creation of digital photographic artwork. Final works will be exhibited electronically and in print. Students will also look at the work of contemporary photographers and prepare a presentation on one photographer. The course utilizes primarily Adobe Photoshop on a Mac platform. Pre- or Co-Req: FYC-101 or EN-110 or EN-109. *(F, WK-CE)*

AR-204 Digital Art I *(4 credits)* This course focuses on the creation of art through electronic processes. Adobe Creative Cloud and other apps will be utilized along with scanners, cameras, and printers. Final works will be exhibited electronically and in print. *(F, CTDH, WK-CE)*

AR-208 Beginning Photography *(4 credits)* This foundational photography course does not assume any prior knowledge of black and white materials or 35mm camera operation. It is designed to introduce students to basic principles of camera and darkroom equipment operation. Students will seek a fine balance between technical acquisition of the photographic skills (such as correct film exposure, film development, and paper processing) and the ability to implement them to communicate a personal vision. Emphasis will be placed

on learning basic principles of photography and an ability to express this knowledge creatively through high quality black and white photographs. Students will be exposed to aspects of the history of photography and visual language in photography today. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109 *(F, WK-CE)*

AR-211 The Art of Bookmaking *(3 credits)* This course will introduce fiber to students at its most sophisticated and expressive, mode: Book Arts. Students will be taught basic book-making techniques as well as a brief history of visual communication (both functionally and aesthetically). Students will create projects that challenge traditional notions of the book within the visual arts. Students will participate in such activities as papermaking, sewing, stitching, and other techniques used to alter the idea of published material and written communication. Note: Additional lab fees apply. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109 *(F, WK-CE)*

AR-215 Ceramic Sculpture *(3 credits)* Ceramic Sculpture introduces students to the basic methods and techniques of creating three-dimensional objects in clay. Students will learn various hand-building techniques as well as the technical, historical, and cultural considerations associated with 3-dimensional art. Through this course, students will develop their own artistic voice by experimenting with and apply these concerns in their ceramic work. Pre-requisite or co-requisite: FYC-101 or EN-110 or EN-109 *(F, WK-CE)*

AR-220 Formulating Beauty: Ceramic Chemistry *(3 credits)* This course is an introduction to ceramic chemistry as related to the formulation of glaze for ceramic wares. Students will engage in experimentation with various materials to gain an understanding of how they contribute to and affect the fired glaze. Along with formulation, health hazards and food safety will be addressed and investigated throughout the course. Pre-requisite: FYC-101 *(WK-SP)*

AR-225 Wheel Throwing *(4 credits)* This course will introduce students to the techniques of the potter's wheel and expressive qualities of clay as an artistic medium as well as an essential commodity. Students will learn wheel-throwing techniques to incorporate form, function, and design with each project. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109 *(F, WK-CE)*

AR-235 Empty Bowls Practicum *(4 credits)* Students will learn to create functional bowls to be donated to the annual Empty Bowls fundraising event that supports Huntingdon County food banks. Additional and complementary topics will include philanthropy, altruism, and empathy-building activities. Students will develop the knowledge and skills needed to engage effectively with the local communities they will inhabit throughout their lives. Creative thought and discourse will occur throughout the semester. *(F, SW-LE)*

AR-290 Design Thinking *(3 credits)* This course is an introduction to design thinking as a powerful tool to approach real-world problems. Although design has traditionally been used to describe the process of creating visually appealing and communicative materials, in this course we will discuss how design can approach system thinking to solve the world's most challenging problems in a creative and innovative way. We will focus on changing the way we see a problem through a design thinking lens, learn to listen, engage in the design process, share our ideas in a team setting, identify ways to structure a group of key stakeholders, and find creative ways to apply design thinking methodologies to any problem. The student will learn the concepts that drive design thinking and ways to present your ideas in a persuasive way. Prerequisite or corequisite: FYC-101 *(F, WK-CE)*

AR-298 Mixed Media Animation *(4 credits)* Introduces students to animation through stop motion techniques and 2D computer animation. An emphasis is placed on story-telling and examining the physics of movement. Adobe Creative Cloud apps will be used in addition to Dragon Frame and traditional stop motion

techniques. Projects will start by exploring the history of animation techniques and principles and culminate in independent projects. *(F)*

AR-299 Special Topic *(1-4 credits)* An introduction to one of the branches of art not currently included in the regular course offerings. Prerequisites vary based on the course offering. Special fees may apply.

AR-300 Intermediate Painting *(4 credits)* This course is designed for advanced students to broaden their understanding of painting, refine techniques, visualize sophistication of concepts, and begin building a personal portfolio that reveals an attempt at a search for meaning/content, personal style, and individual expression. Students will build upon foundational painting skills acquired in introductory level painting by exploring color and tonal relationship through a variety of applications and techniques of the oil media. Students will also investigate descriptive and expressive possibilities in painting introduced through technical and conceptual painting problems designed to develop observational and conceptual awareness. Prerequisite: AR-200. *(F)*

AR-305 Intermediate Ceramics *(4 credits)* This course will investigate advanced ceramic techniques and concepts to strengthen students' abilities to utilize clay as a creative medium. Sophisticated and expansive projects will merge personal investigation, aesthetic sensibilities, and technical skills as a means of expression. Students will participate in other areas of ceramics, such as loading and unloading kilns and making clay. Prerequisite: Take one of the following courses: AR-125, AR-215, AR-225, or AR-235. *(F)*

AR-308 Intermediate Photography *(3 credits)* Building upon the experiences of Basic Photography, this course will concentrate on black and white photography; however, students will be encouraged to go beyond the boundaries of a conventional black and white print by incorporating a range of techniques, paper sizes, and alternative processes. Students will be exposed to the work of early and contemporary photographers through thematically structured lectures based upon significant historical and contemporary themes, concepts, and ideas. Students will be expected to produce work with deeper content and individual expression. Prerequisite: AR208. Note: A special fee for art supplies is assessed. *(F)*

AR-323 Wheel Throwing II *(4 credits)* This course is designed to investigate more complex theories and techniques of wheel-thrown ceramics. Sophisticated and expansive projects will fuse personal investigation, aesthetic sensibilities, and technical skills as a means of expression. Students are encouraged to challenge constraints of the material as well as their comfort level - it is only through the process of trying that one can never truly fail. Prerequisite: AR-225. *(F)*

AR-335 Empty Bowls Practicum *(4 credits)* Students enrolled in AR335 will create functional bowls to be donated to the annual Empty Bowls event in order to raise money for Huntingdon County food banks. Reflection on philanthropy and national hunger will be the secondary focus of the course. Prerequisite: AR225 *(F)*

AR-375 Community Design Lab *(4 credits)* This course provides a laboratory setting for experimentation and discussion through team-based, community-engaged design projects. Students work in reciprocal partnerships with local organizations to propose, plan, and complete real-world design solutions, supported by reflection, professional deliverables, and client presentations. Must have sophomore standing or higher. Prerequisite: AR-102 or IM-110. *(SW-LE, CTDH)*

AR-376 Business of Design *(3 credits)* Business of Design introduces students to professional practices in the creative industries through experimentation, discussion, and self-directed projects. Students develop a personal brand and online presence while learning ethical business practices, including intellectual

property, contracts, negotiation, time tracking, and pricing. The course prepares creative entrepreneurs to operate confidently and responsibly in competitive professional environments. Students must have junior standing or higher.

AR-393 Integrated Media Practicum *(4 credits)* This course offers academic credit for students applying departmental theory through on- or off-campus projects developed in partnership with local community organizations. Students engage in reciprocal, community-based work that connects academic learning to real-world practice. Prerequisite: AR-375 or IM-375 or AR-376 or IM-376. Must have sophomore class standing or higher. *(SW-LE)*

AR-395 Advanced Photography Topics *(3 credits)* This course will expand upon students' understanding of photography and digital art. The class is structured around modules that dive into different genres, like documentary, still life, or fashion, and will end with an ambitious self-directed project. Advanced shooting, editing, and printing techniques will be covered. Prerequisite: AR-204 or AR-203 or AR-208. *(F)*

AR-398 3D Computer Animation *(4 credits)* Introduction to 3D animation using Autodesk Maya, though other programs will be used. Emphasis is placed on improving time-based design and story-telling by studies that explore movement, cinematography, editing, sound, and lighting. Prerequisite: AR-104 or AR-204 or IM-110 or AR-298. *(F)*

AR-399 Special Topics in Art *(1-4 credits)* An introduction to one of the branches of art not offered. Prerequisites vary based on the course offering. Special fees may apply.

AR-400 Advanced Painting *(4 credits)* This course is designed for advanced students to broaden their understanding of painting, and their refine techniques. This course will help students build a personal portfolio that conveys a search for meaning/content, personal style, and individual expression. Students will build upon painting skills acquired in introductory and intermediate level painting courses by investigating descriptive and expressive possibilities in painting. Painting abilities and techniques should be refined this semester, as well as sophistication of concepts. An emphasis will be placed on solving conceptual problems in painting in a context relevant to contemporary art. Prerequisite: AR-300. *(F)*

AR-405 Advanced Ceramics *(4 credits)* Students will propose individually-designed, sophisticated and expansive projects that display dedication to a cumulative sense of aesthetic sensibilities, technique(s), visual vocabulary, and concept utilizing clay as the primary medium. Creative thought and discourse will occur throughout the semester. Prerequisite: AR-305. *(F)*

AR-451 Capstone in 2D Studio Art I *(4 credits)* This course provides students with the time, focus, and experience to develop an art portfolio in preparation for entrance to graduate art programs or a career in visual arts. Students must have twelve credits of advanced courses (300 and 400 level) in one or more of the following art disciplines: Drawing, Painting, Photography, Ceramics, Sculpture (3-D arts), and Art History. *(F)*

AR-452 Capstone in 2D Studio Art II *(1 credits)* This course provides students with the time, focus, and experience to develop an art portfolio in preparation for entrance to graduate art programs or a career in visual arts. Students must have twelve credits of advanced courses (300 and 400 level) in one or more of the following art disciplines: Drawing, Painting, Photography, Ceramics, Sculpture (3-D arts) and Art History, senior class standing, and instructor permission to enroll. *(F)*

AR-453 Capstone in 3D Studio Art I *(4 credits)* This course provides students with the time, focus, and experience to develop an art portfolio in preparation for entrance to graduate art programs or a career in

visual arts. Students must have twelve credits of advanced courses (300 and 400 level) in one or more of the following art disciplines: Drawing, Painting, Photography, Ceramics, Sculpture (3-D arts) and Art history. *(F)*

AR-454 Capstone in 3D Studio Art II *(1 credits)* Students will create a body of work to display in the spring Capstone exhibition. Independent investigations may vary in medium; capstones are offered to students who have displayed advanced talent and comprehension of material(s). Sophisticated and expansive projects will be individually designed by each student that displays dedication to a cumulative sense of aesthetic sensibilities, technique(s), visual vocabulary, and concept. Creative thought and discourse will occur throughout the semester. Prerequisite: AR-405. Students must have twelve credits of advanced courses (300 and 400 level) in one or more of the following art disciplines: Drawing, Painting, Photography, Ceramics, Sculpture (3-D arts) and Art History, senior class standing, and instructor permission to enroll. *(F)*

AR-459 Capstone Seminar *(1 credits)* This seminar bridges academic study and professional practice. Students synthesize creative development through documentation, critical reflection, and portfolio creation. As students advance, they translate influences into research questions and engage in ethical inquiry, often challenging the status quo. Requires senior standing. Corequisite: AR-451, AR-453, or AR-496.

AR-460 Narrative Arts Capstone I *(4 credits)* First course in a two-course series required for students in the Narrative Arts track in the Art & Design Program of Emphasis. Requires instructor permission and senior standing.

AR-461 Narrative Arts Capstone II *(1 credits)* Second course in a two-course series required for students in the Narrative Arts track in the Art & Design Program of Emphasis. Requires instructor permission and senior standing.

AR-490 Art Internship *(1-9 credits)* Students will work under the supervision and guidance of a faculty member or internship sponsor. Internships may be in the fields of the fine arts, art history, or museum studies. Students may work as fine arts apprentices, museum interns, curatorial assistants, etc. Corequisite: AR-495. Requires sophomore, junior, or senior standing. *(F)*

AR-495 Internship Seminar *(1-6 credits)* Requires student to reflect on the internship experience and/or pursue relevant research. Corequisite: AR-490. Requires sophomore, junior, or senior standing. *(F)*

AR-496 Digital Media Capstone I *(4 credits)* This senior capstone course guides students in examining design theory and research methods related to a focused topic, theme, or issue. Through sustained writing and research, students develop, revise, and articulate a thesis or creative project. Emphasis is placed on critical inquiry, scholarly contribution, and professional communication. Requires senior class standing.

AR-497 Digital Media Capstone II *(1 credits)* This senior capstone course guides students in examining design theory and research methods related to a focused topic, theme, issue, or problem. Through sustained writing and research, students develop, revise, and articulate a thesis or creative project. Emphasis is placed on critical inquiry, scholarly contribution, and clear communication. Prerequisite: AR-496. Must have senior class standing and instructor permission.

AR-499 Special Topics *(1-4 credits)* Allows departments to offer topics not normally offered. Prerequisites and fees vary by title.

AR-INS Art Independent Study *(1-4 credits)*

AR-TUT Art Teaching Assistant *(1-4 credits)*

ASTRONOMY (AS)

AS-160 Measuring the Universe *(4 credits)* This course explores what astronomers know about the size and scale of our Solar System, the Milky Way Galaxy, and the Universe as a whole. Hands-on exercises introduce students to the tools and techniques used to measure such immense distances. Pre- or Co-req: FYC-101 or EN-110 or EN-109. *(N, WK-SP)*

AS-170 Astronomy Outreach *(1 credits)* Students will develop the skills needed to communicate scientific ideas to the general public by leading astronomy outreach activities with community partners. Emphasis will be on making effective scientific presentations, developing and delivering educational programs to groups of all ages, and communicating knowledge of astronomy to others. Instruction in night sky observing and telescope operation will be provided. Pre- or Co-Requisite: FYC-101. *(SW-LE)*

AS-260 Observational Astronomy *(4 credits)* An introduction to the instruments and techniques used by astronomers to measure the properties of celestial objects. Students will use the college's observatories to acquire and analyze astrometric, photometric, and spectroscopic data. No prior knowledge of astronomy or experience with telescopes is required. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109. *(N, WK-SP)*

AS-300 Chile: Southern Stars I *(2 credits)* This Global Engagement course sequence (2-credit predeparture course in fall or spring semester plus a 2-credit short-term study abroad course in winter or summer term) is designed to provide students with a multidisciplinary exploration of astronomy and nature, the human experience, and literary expression in Chile. Students will study astronomy, the history of Chile, and expressions of Chilean culture in film, essay, and poetry with a focus on the relationship to the night sky. During two weeks in Chile, students will engage in astronomical observations, literary discussions, and cultural activities. Travels to international observatories, pre-Columbian archaeoastronomy sites, natural wonders such as the Humboldt Penguin Reserve and the Tatio Geysers, historical landmarks, and cultural events will expose students to diverse aspects of Chile's natural environment and cultural production. Prerequisite or corequisite: FYC-101. The total fee for the experience is split between the two courses, with the majority of the fee on the fall or spring semester billing and a $250 administrative fee on the winter or summer term billing. *(I, N, SW-GE)*

AS-301 Chile: Southern Stars II *(2 credits)* This Global Engagement course sequence (2-credit predeparture course in fall or spring semester plus a 2-credit short-term study abroad course in winter or summer term) is designed to provide students with a multidisciplinary exploration of astronomy and nature, the human experience, and literary expression in Chile. Students will study astronomy, the history of Chile, and expressions of Chilean culture in film, essay, and poetry with a focus on the relationship to the night sky. During two weeks in Chile, students will engage in astronomical observations, literary discussions, and cultural activities. Travels to international observatories, pre-Columbian archaeoastronomy sites, natural wonders such as the Humboldt Penguin Reserve and the Tatio Geysers, historical landmarks, and cultural events will expose students to diverse aspects of Chile's natural environment and cultural production. Prerequisite or corequisite: FYC-101. NOTE: The total fee for the experience is split between the two courses, with the majority of the fee on the fall or spring semester billing and a $250 administrative fee on the winter or summer term billing. *(I, N, SW-GE)*

AS-355 Astronomy Research *(1-3 credits)* Observational, computational, or theoretical research into a topic in astronomy or astrophysics, under the guidance of a faculty member. May be taken multiple times for credit. Instructor permission required.

AS-360 Advanced Observational Methods *(4 credits)* Advanced Observational Methods develops practical and computational skills used in modern astronomical research. Students design observing programs, acquire and calibrate data, and extract physical results using Python-based analysis. Emphasis is placed on uncertainty, documentation, and reproducible workflows. Topics may include photometry, time-series analysis, astrometry, spectroscopy, and the use of public survey archives, as equipment and projects allow. Prerequisites: AS-260 and CS-110.

AS-430 Astrophysics I *(3 credits)* Astrophysics I applies modern physics to astronomical systems, emphasizing physical modeling and the connection between theory and observation. Students use gravity, radiation, and thermodynamics to interpret orbital and rotational motions and to infer stellar properties from brightness and spectra. Topics may include celestial mechanics; radiation laws and spectra; and the physical foundations of stellar structure, energy generation, and evolution. Prerequisite: PC-301.

AS-431 Astrophysics II *(3 credits)* Astrophysics II applies the core tools of astrophysics to energetic and large-scale phenomena beyond single-star systems, emphasizing how physical models are tested against observations. Topics may include compact objects; accretion and high-energy radiation; the interstellar medium and star formation; galaxy structure and dynamics; and an introduction to extragalactic astronomy and cosmology, including evidence for an expanding universe. Prerequisite: AS-430.

AS-455 Astronomy Capstone *(2-4 credits)* A capstone research experience for Astronomy and Astrophysics POE students, completed within the a student's final 30 credits at Juniata. Students apply skills developed across the POE to design and complete an observational, computational, or theoretical investigation under faculty guidance. The course culminates in a formal written report and a public presentation of results. Requires senior class standing and instructor permission.

AS-INS Astronomy Independent Study *(1-4 credits)* Independent study courses in Astronomy. Instructor permission required.

BIOLOGY (BI)

BI-001 Non-Credit Biology Internship *(0 credits)* Provides students an overview of an organization as well as providing an opportunity for practical application of the skill developed in students' area of concentration. Note: see the chapter "Special Programs" under Internships; listed as Intern ship:(Title); must be 6 weeks long. Prerequisite: permission.

BI-101 General Biology I *(4 credits)* General Biology I, the first course in the Biology POE core, is structured around five story modules that cover core concepts in biology, including photosynthesis, horizontal gene transfer, metabolism, muscle function, transcription, translation, signaling, sexual development, environmental toxicology, and epidemiology. Class discussion will explore the role of science in shaping current societal views. Pre-Requisite or Co-Requisite: FYC-101 *(WK-SP)*

BI-102 General Biology II *(4 credits)* This class will emphasize student engagement in the research process along with basic research skills. Students will engage in research projects with their professors. The course

will include hands-on laboratory technique development, experimental design, hypothesis testing, and scientific writing. Prerequisite: BI-101 or BI-105

BI-118 Human Anatomy & Physiology I *(4 credits)* Human Anatomy & Physiology I is the first of a two-course sequence that will explore the human body from the simplest level of atoms to the most complex level as an organism. It is primarily designed for Exercise Science and Kinesiology students, as well as students pursuing majors in Health Sciences. Students will learn about some of the major organ systems (i.e., skeletal, muscular), which will be supported by laboratory experiences.

BI-119 Human Anatomy & Physiology II *(4 credits)* This is the second of a two-course sequence that will continue exploring the human organism. It is primarily designed for Exercise Science and Kinesiology students, as well as students pursuing Health Sciences. Students will learn about some of the major organ systems (i.e., cardiovascular, respiratory) not covered in A&P I. Prerequisite: BI-118 or ESK-105.

BI-159 Natural History of Florida *(1 credits)* This course examines the diverse, unique ecosystems of Florida. A combination of lectures and discussions are supplemented by a week-long trip to Florida. We will explore Florida's ecosystems through first-hand experiences.

BI-190 Human Biology *(3 credits)* Course is a non-majors approach to the basic chemistry and biology of the human body, as well as how humans fit into society and environment. Emphasis will be on applying scientific process to current health topics. *(N, WK-SP, CTGES)*

BI-199 BI Special Topics *(1-4 credits)* Allows department to offer topics not normally taught. Prerequisites and Corequisites vary by title.

BI-209 Cell & Molecular Biology *(3 credits)* We will undertake a comprehensive introduction to the fundamental concepts of cell and molecular biology. We will explore the structure and function of cells, the molecular mechanisms underlying cellular processes, and the interactions between cells in multicellular organisms through a combination of lectures, activities, and discussions. Prerequisites: BI-101 and BI-102.

BI-216 Remote Field Course I *(2 credits)* Join us in learning about the U.S. Southwest (New Mexico, Arizona, Utah, and Colorado) and plan on visiting the sites discussed in class and examining the impact on the indigenous people. The course uses an interdisciplinary approach. The RFC seminar course (BI-216) is scheduled during the spring semester and is paired with BI-217 during the summer term, during which students and instructors travel to the various locations studied during the seminar. Students must take both courses to fulfill the U.S. Experience general education requirement. The total fee for the experience is split between the two courses, with half on the spring semester billing and the other half on the summer term billing. Prerequisite or corequisite: FYC-101. *(SW-US)*

BI-217 Remote Field Course II *(2 credits)* Join us in learning about the U.S. Southwest (New Mexico, Arizona, Utah, and Colorado) and plan on visiting the sites discussed in class and examining the impact on the indigenous people. The course uses an interdisciplinary approach. The RFC seminar course (BI-216) is scheduled during the spring semester and is paired with BI-217 during the summer term, during which students and instructors travel to the various locations studied during the seminar. Students must take both courses to fulfill the U.S. Experience general education requirement. The total fee for the experience is split between the two courses, with half on the spring semester billing and the other half on the summer term billing. Prerequisite: BI-216. *(SW-US)*

BI-270 Infectious Disease & Society *(3 credits)* This course focuses primarily on the impact of human infectious diseases that have changed the world. Each disease is analyzed from five distinct perspectives:

Clinical, Historical, Economic, Artistic, and Public Health. We also discuss genomics aspects of the infective organisms and of their human hosts. Pre- or co-requisite: FYC-101 or EN-110 or EN-109 *(CA, N, WK-SP, CTGES)*

BI-289 Frontiers of Biology *(1 credits)* Seminar series required in all Biology POEs in the sophomore year, consisting of research seminars given by invited speakers and members of the department, both faculty and students. Descriptions of independent research, internship and study abroad opportunities as well as reports by students and faculty on experiences in these programs will be presented.

BI-290 Nutrition *(3 credits)* This course covers basic principles and facts about nutrition, explores the role of nutrition in human health, and considers a range of societal and political issues surrounding food and nutrition in the U.S. and abroad. Prerequisite: FYC-101 or EN-110 or EN-109. *(N, WK-SP)*

BI-299 Special Topics *(1-4 credits)* Allows the Biology department to offer topics not on the regular schedule. Prerequisites will vary based on topic.

BI-300 General Ecology *(3 credits)* Examines the interactions of living organisms with their physical, chemical, and biotic environments. Special attention is given to the environmental, biological, and historical factors affecting the distribution, abundance, adaptation, and diversity of species in natural communities. Prerequisite: BI-101 or BI-105. Corequisite: BI-301. *(N)*

BI-301 General Ecology Lab *(1 credits)* Students work together as research teams to carry out original investigations on the ecology of local species and natural communities. Emphasis on ecological research design, data collection and analysis, and oral and written presentation of results. Field trips are included. Prerequisite: BI-101 or BI-105. Corequisite: BI-300. *(N)*

BI-305 Biostatistics *(4 credits)* This course deals centrally with quantitative and statistical methodology in the biological sciences. It includes experimental design and the conventions of generating, analyzing, interpreting and presenting biological data. Counts as a math course for graduate and professional school requirements. Prerequisites: BI-102 or BI-106 or ESS-100. *(N, QS, CTGES)*

BI-310 Physiology *(4 credits)* A combined laboratory and lecture course which examines the function of cells, tissues, organs, and systems. Physical, Mathematical, chemical, and anatomical concepts are integrated to gain a comprehensive appreciation of the dynamics of living organisms. Students are introduced to the use of physiological instrumentation, experimental design, collection and statistical analysis of data, and preparation of scientific manuscripts. Laboratory experiments amplify and complement the lectures. Pre-Reqs: BI-102 or BI-106; CH-232 or CH-242. *(N)*

BI-312 Altered Ecosystems *(4 credits)* This course explores the ecological implications of abrupt natural and anthropogenic changes to ecosystems. A major focus will be on how ecosystems respond to these changes over time. Topics covered in this course will include concepts in classical ecology, ecosystem ecology, as well as contemporary theories on restoration ecology. Focus on local altered ecosystem case studies will aid to reinforce principles of ecosystem ecology and field trips to local sites will be used for student projects.

BI-314 Talk Nerdy to Me *(3 credits)* Talk Nerdy To Me is a course designed for anyone interested in more effectively communicating scientific ideas to non-specialists. Students will write short popular science articles, illustrate comics, create video explanations, and refine oral presentation skills to present recent research advances or their own research data. All student output will be produced for public consumption and outreach online and in public formats. There will be a strong emphasis on peer evaluation and review.

BI-315 Grant Writing for STEM *(3 credits)* This course is designed to introduce students to the principles and practices of effective grant writing. Through a blend of lectures, workshops, and peer-review sessions, students will learn how to develop compelling research proposals, effectively communicate their research ideas, and navigate the grant submission and review process. Prerequisite or corequisite: FYC-101. Also requires junior or senior standing. *(WK-FR)*

BI-316 Advanced Molecular and Cellular Biology *(3 credits)* A comprehensive approach to the study of cells, with emphasis on molecular techniques and understanding the primary literature. Analysis of the cell at the molecular level emphasizes a unity in the principles by which cells function. Prerequisite: CH-312 or CH-342. *(N)*

BI-317 Principles of Genetics *(3 credits)* This course offers a comprehensive introduction to the principles and mechanisms underlying heritability and genetic variation. Students will explore Mendelian genetics, DNA structure and replication, gene expression, and the role of genetics in evolution, medicine, and society. This will be done through a combination of lectures, discussion, and recitation. Prerequisites: BI-101 and BI-102.

BI-318 Developmental Biology *(3 credits)* This course offers comprehensive investigation of the concepts and mechanisms of development, including ganetogenesis, fertilization, pattern formation and organogenesis. The course examines classical and molecular approaches examining problems of development. Students are expected to present research from current literature in the field. Prerequisite: BI-102. *(N)*

BI-324 Ornithology *(3 credits)* This course provides a comprehensive survey of the comparative biology, ecology, and behavior of birds with a special focus on issues pertaining to conservation and management. Laboratory activities focus on field identification of birds and research and monitoring techniques. Several field trips are possible. Prerequisite: BI-101 or BI-105. *(N)*

BI-325 Plant Ecology *(3 credits)* Primarily an ecology course, but also included is a significant amount of plant identification and/classification and plant epochology. The ecology portion will cover the whole spectrum of this fast-growing field; from communities and ecosystems to theory and adaptation. Corequisite: BI-326. Prerequisites: BI-101 or BI-105 and Junior or Senior standing. *(N)*

BI-326 Plant Ecology Lab *(1 credits)* The first 10 weeks are devoted to laboratory work on the identification of the local entophyte flora. Students are required to make a personal collection representing a minimum of 8 families and are expected to become proficient in using a scientific manual. During the 5th and 6th week there is a mandatory all day field trip to collect forest data. An extensive paper on forest succession will be due by semester's end. Corequisite: BI-325. Prerequisite: BI-101 or BI-105. *(N)*

BI-327 Botany *(4 credits)* This course will provide an in-depth examination of the biology of plants. In lecture and lab we will examine plant reproduction and development, morphology and physiology, evolution and biodiversity, and ecology and conservation. Particular attention will be paid to the aspects of plant biology that are unique to this branch of life and/or are of critical importance to human or other biotic interactions (e.g. photosynthesis, pollination, agriculture, etc.). Prerequisite: BI-101 or BI-105. *(N)*

BI-333 Plant Diversity *(4 credits)* This course explores the diversity of plants through the scientific field of plant systematics, and through the practice of plant taxonomy: the description, identification, naming, and classification of plants. We will focus our attention on studying and identifying the regional flora as well as the major vascular plant families. This will be done through a combination of field and literature study. Prerequisite: BI-101 or BI-105. *(N)*

BI-339 Organic Evolution *(3 credits)* Presents the theory and facts of organic evolution through a review of modern and historical research on the subject. Major topics include population genetics, adaptations, evolutionary ecology, systematics, the fossil record, molecular evolution, ontogeny and phylogeny, macroevolution, co-evolution, human evolution, and sociobiology. Prerequisite: BI-101 or BI-105. *(N)*

BI-340 Medical Microbiology *(4 credits)* A lecture and lab course focusing on the biology of microorganisms and microbial interactions with humans. Foundational concepts of microbial cell structure, diversity, metabolism, genetics and impacts on humans are discussed along with medical, biotechnical, and environmental aspects of microbiology. Lab provides hands-on experiences with microbiological techniques and handling microorganisms safely and aseptically. Note: A special fee is assessed. Prerequisite: BI-102 or BI-106, and CH-144. *(N)*

BI-344 Winter Dendrology *(4 credits)* We will explore the woody plants of Central Pennsylvania with an eye towards species identification and forest ecology. In addition to identification, we will spend time trying to understand morphological variation and its causes, the causes and consequences of species global and local distribution patterns, as well as species life-history traits and their roles in forest community ecology.

BI-350 Invertebrate Zoology *(3 credits)* Focuses on the organizational plan, behavioral and ecological adaptation, diversity and economic importance of representative members of the major invertebrate phyla. Prerequisite: BI-101. *(N)*

BI-351 Invertebrate Zoology Lab *(1 credits)* Illustrates and augments the content and concepts of the lecture through direct observation and/or dissection of selected representative organisms. Corequisite: BI350. *(N)*

BI-360 Vertebrate Zoology *(3 credits)* Focuses on the vertebrate animals of the Eastern United States. Collection, taxonomic identification and natural history are emphasized. Prerequisite: BI-101 or BI-105. *(N)*

BI-361 Vertebrate Zoology Lab *(2 credits)* Frequent field trips, for observation and specimen collection are followed by exercises in identification, specimen preparation, and museum techniques to illustrate and augment the concepts and content of the lecture. Corequisite: BI-360. *(N)*

BI-362 Animal Behavior *(4 credits)* Behavior is a result of the nervous system interacting with the environment. Animal Behavior will explore the proximate and ultimate causes of behavior. Special attention will be paid to the role and function of the nervous system in behavior as well as the interplay between genetics and the environment. The lab portion of the course is a co-requisite and will explore basic experimental design for studying animal behavior in the lab and in the field. Pre-Req: BI-101 or BI-105. *(N)*

BI-367 Comparative Anatomy *(3 credits)* A study of the structural organization of the human body organized around the major body systems with an emphasis on structure function relationships. To gain deeper understanding of structure function relationships, we will study human anatomy in relation to our position within the vertebrate lineage, comparing human anatomical features with those of other vertebrates. Prerequisites: BI-101 or BI-105 and BI-102 or BI-106. Corequisite: BI-368. *(N)*

BI-368 Comp Anatomy Laboratory *(1 credits)* Provides additional content to support the lecture using human models, online resources and dissection of selected representative vertebrates with an emphasis on amniote, mammalian and human anatomy. Note: A special fee is assessed. Corequisite: BI367. *(N)*

BI-370 Herpetology *(3 credits)* This course presents the biology of amphibians and reptiles from an evolutionary, anatomical and ecological perspective. Phylogenetic diversity of modern taxa will be

presented, focusing on North American groups. Instruction will be in the form of lectures, discussions, laboratory activities and field trips to observe local herpetological species. Prerequisite: BI-101 or BI-105. *(N)*

BI-380 Biology Research Methods *(2-4 credits)* Offered by faculty members in the Biology department for students interested in learning to conduct meaningful and responsible research. Students enroll in a section aligned with their research interest to generate novel data, while mastering the important components of research common to each of the diverse areas of Biology. Prerequisite: BI-101. Requires sophomore, junior, or senior standing. *(N, CW, CTGES)*

BI-384 Experiential Ecology *(4 credits)* This course will gain students real-world hands-on experience in the ecological disciplines, while helping them make connections with both government, non-profit, and private organizations in the environmental field. This course will be comprised of lectures, reflective essays, exams, and field experiences that will include a community outreach project aimed to improve water quality in the Juniata River. *(SW-LE)*

BI-389 Biology Research Seminar *(1 credits)* Lectures, discussions and student exercises covering such topics as ethics in research, writing effective research proposals and the effective written and oral communication of research results. Professional research and educational societies, government and private funding of research in the United States and other countries and career opportunities will also be discussed. Prerequisites: BI289. Corequisites: BI489. Graded S (satisfactory) or U (unsatisfactory).

BI-399 Special Topics *(1-4 credits)* Offered at the discretion of the department to qualified students. Topic titles may vary from semester to semester and more than one may be offered per semester. Note: Students may take each ST course for credit. Requisites vary depending on topic.

BI-400 Environmental Genomics *(4 credits)* This course will utilize Microbial Community Analysis leveraging high-throughput sequencing technology to identify the microbes present in naturally occurring or human-made ecosystems. Students will learn both molecular and bioinformatics skill sets, as well as microbial ecology principles throughout this course. Pre-Reqs: BI-102 or BI-106, CH-144, CH-145. *(N)*

BI-405 Bioinformatics Fundamentals *(4 credits)* Bioinformatics is the science of collecting and analyzing complex biological data. It is an interdisciplinary field that develops and applies methods and software tools for understanding biological data. Prerequisites: BI-101 or BI-105, BI-102 or BI-121, CH-142, CH-143, CH-144, and CH-145. *(N, CTGES)*

BI-417 Reproductive Biology *(3 credits)* This course examines reproductive biology by integrating aspects of development, anatomy, cell biology, and hormone physiology with the behavior and ecology of vertebrates. Pre-Req: BI-101 or BI-105. *(N)*

BI-432 Environmental Toxicology *(3 credits)* Broadly integrative in nature, this class compounds in environmental systems and focuses on the potential for deleterious consequences in wildlife species and humans. Examines aspects of chemistry, cell biology, and ecology in considering environmental contamination. Instruction includes lectures and student presentations/writing exercises. Prerequisites: Take 2 courses from BI-101 or BI-105 or CH-142 or ESS-100, or have permission from the instructor. *(N)*

BI-437 Molecular Ecology *(3 credits)* Molecular ecology delves into the interface of molecular biology and ecology, focusing on the application of molecular techniques to address ecological questions. Students will explore the genetic processes that underlie ecological phenomena and will learn how molecular tools can inform our understanding of speciation, adaptation, behavior, and conservation. Prerequisite: BI-101.

BI-444 Immunology *(4 credits)* Covers the properties of antigens, antibodies and complement, humoral and cell-mediated immunological systems, antigen-antibody interactions, and hypersensitivity reactions. Prerequisite: BI-102 or BI-106; CH-312 or CH-342. *(N)*

BI-450 Neurobiology *(3 credits)* Neurobiology is a lecture course that addresses concepts ranging from the molecular biology of ion channels to signal integration and behavior. This course is experimentally based and will focus on the biophysics, chemistry, and mechanisms of signal production and integration in the nervous system. Particular attention will be paid to sensory systems and memory consolidation. In addition to lecture exams, students will gain valuable experience in scientific writing through the preparation of a review paper on a neurobiological topic of their choosing. Pre-Req: Take one of the following courses: BI-101 or BI-105 or CH-142 or PY-101 or PC-200 or PC-202 or PC-204. *(N)*

BI-461 The Art & Science of Brewing *(4 credits)* This course examines all aspects of brewing, integrating science, technology, and history while considering all steps of the brewing process including, barley and malting, yeast biology, brewing herbs, mashing, fermentation, conditioning and beer styles. Additionally, students consider the creative artistry of brewing. NOTE: Students must be 21 years of age by the course start date. Pre- or Co-Req: FYC-101 or EN-110 or EN-109. *(N, WK-CE)*

BI-469 Genomics *(3 credits)* Genomics is an exciting and ever advancing field. Through a mixture of traditional lectures, primary literature readings, and invited seminar speakers, students will learn about both the theoretical and practical applications of genomics within biology and across other scientific fields. Prerequisites: BI-101, BI-102, and BI-317.

BI-471 Applied Bioinformatics *(3 credits)* This interactive course is tailored to provide students with the essential computational tools to analyze large biological datasets and extract meaningful results using a novel biological dataset. Students will also learn to write a scientific manuscript that will be prepared for publication by the end of the course. Prerequisites: BI-101, BI-102, and BI-469.

BI-472 Biotechnology *(3 credits)* This course provides an in-depth exploration of the principles, techniques, and applications of biotechnology. Students will explore the fundamental concepts of molecular biology and the real-world impact and ethical considerations of biotechnology in various fields, including healthcare, agriculture, and the environment. Students will interface with professionals in the field and work toward professional development for the biotech industry.

BI-481 Medical Genomics Research Methods *(4 credits)* This class will provide training in advanced statistical and/or informatics tools. Bioinformatics skills will be related to variant characterization and/or comparison of eukaryotic genomes and populations. The research project will involve working on medical research problems affecting marginalized Amish and Mennonite populations. Pre-Req: BI-305 or BI-400 or BI-460 or permission of instructor. *(N)*

BI-489 Biology Research *(1-6 credits)* Individual research projects directed by faculty members Presentation at a professional meeting is encouraged. Prerequisite: Permission of the instructor. *(N)*

BI-490 Biology Internship *(1-9 credits)* Corequisite: BI-495. Must have permission and sophomore, junior, or senior standing. *(N)*

BI-495 Internship Seminar *(1-6 credits)* Requires students to reflect on the experience and/or pursue relevant research. Corequisite: BI-490. Must have permission and sophomore, junior, or senior standing. *(N)*

BI-499 Senior Thesis *(3 credits)* This course is the culmination of an individual research project initiated in BI 489. Students will complete their projects by writing a paper describing their research. These papers will be of significant length and contain full documentation of the student's original research. The thesis will be presented orally to faculty and students. Prerequisite: Permission of the instructor. *(N, CW)*

BI-INS Independent Study *(1-6 credits)* See catalog.

BI-TUT Biology Teaching Assistant *(1-4 credits)*

CIVIL & ENVIRONMENTAL ENGINEERING (CEE)

CEE-101 Intro to Civil & Environ Engineering *(1 credits)* This seminar-style class provides information about the civil and environmental engineering curriculum and career pathways. This course introduces students to a variety of topics through guest speakers, class discussions, and networking opportunities.

CEE-200 Fundamentals of Env. Engineering *(3 credits)* Fundamentals of Environmental Engineering is aimed at broadening students' understanding of issues in environmental engineering. This course integrates engineering principles and fundamentals from the natural sciences with policy analyses to solve real-world problems that impact major environmental compartments such as air, water, energy, and waste resources. Prerequisites: MA-130, CH-142, and CH-143.

CEE-230 Applied Engineering Data Analytics *(3 credits)* This course introduces probability, distributions, regression, Bayesian methods, and hypothesis testing with applications in engineering analysis and design. Emphasis is placed on data interpretation and modeling.

CEE-310 Hydrology *(4 credits)* This course is designed to provide the student with an understanding of the distribution and behavior of water in both natural and human altered systems. This course is designed to provide the student with an introductory understanding of the physical, chemical, and biological characteristics of water in natural and human altered systems. Prerequisite: MA-130.

CEE-312 Fluid Mechanics *(4 credits)* This is an introductory course in the basic principles of fluid properties and fluid flow. The course will cover fluid system/control volume relationship analysis for continuum, energy, and momentum. Prerequisite: MA-130.

CEE-315 Environmental Sustainability *(3 credits)* Provide students with an overview of sustainability, indicators of sustainability, sustainability matrices and assessment tools, sustainable engineering practices, and applications of sustainability concepts to engineering with selected case studies. Students will address grand challenges as identified in a recent study prepared by the National Academy of Sciences. Prerequisites: CEE-200 and MA-230.

CEE-318 Environmental Water Quality *(4 credits)* The objective of this course is to provide an overview of surface and groundwater quality and the impacts of human and natural influences on both human and environmental health. Topics include analytical methods for water quality assessment, physical, chemical, and biological factors of water quality, and an introduction to water/wastewater treatment processes. Prerequisites: CEE-200; CH-142/CH-143; and either CH-144/CH-145 or GL-126.

CEE-320 Geotechnical Engineering *(3 credits)* Develops the terminology and descriptions common to soil compressibility, fluid flow, response to mechanical compaction, and strength as well as methods of determining geostatic stresses and stress changes due to boundary loadings. Prerequisites: PC-260, PC-320, and PC-321. Corequisite: CEE-321.

CEE-321 Geotechnical Engineering Lab *(1 credits)* Laboratory determination and engineering evaluation of the physical properties of soils and engineering materials. Corequisite: CEE-320.

CEE-340 Transportation Engineering *(3 credits)* Principles of the design of transportation facilities with emphasis on highways and airports in the areas of geometric, drainage, and pavement design. Prerequisites: CEE-321, MA-130, and one statistics course from this list: ESS-230, BI-305, MA-205, MA-220, or another approved course.

CEE-400 Structural Analysis *(4 credits)* The goal of this course is to provide students with the ability to analyze structures. The course will illustrate various methods of structural analysis in determining deflections, internal forces, and external support reactions for beams, trusses and frames. Prerequsites: MA-130, PC-202, PC-320, and PC-321.

CEE-401 Civil & Environ Engineering Capstone *(3 credits)* This course is intended to provide a real-world, project based experience at an advanced level. The student teams utilize skills they have acquired in their academic career to evaluate and provide potential solutions to realistic engineering opportunities. The project will be chosen each year based on needs and opportunities in local agencies to provide an advanced project that can be done in one year. Must be a Civil or Environmental Engineering POE and have senior standing.

CEE-410 Open Channel Flow *(3 credits)* Topics will include concepts of open channel flow, data requirements, basic input requirements, output analysis, application of bridge and culvert routines, and floodway determination. Participants will have an opportunity to prepare input and analyze output during workshops. Prerequisite: CEE-312 or ESS-262.

CEE-419 Water/Wastewater Treatment *(4 credits)* This course is a study of the physical, chemical, and biological unit processes for the treatment of municipal drinking water and wastewater. It covers the design and operation of integrated treatment systems to remove pollutants from water. Environmental microbiology and chemistry concepts as well as mass transfer and reactor design concepts are reviewed throughout the class. Prerequisite: CEE-318.

CEE-450 Civil & Environ Engineering Research *(1-6 credits)* Individual research projects directed by faculty members Presentation at a professional meeting is encouraged. May be repeated for up to 15 credits. Prerequisite: Permission of the instructor.

CHEMISTRY & BIOCHEMISTRY (CH)

CH-001 Non-Credit Chemistry Internship *(0 credits)* Provides students an overview of an organization as well as an providing an opportunity for practical application of the skill developed in students' area of concentration. Note: see the chapter "Special Programs" under Internships; listed as Internship(title); must be 6 weeks long. Prerequisites: Permission.

CH-123 Chemistry of Life *(4 credits)* This course along with the accompanying lab introduces students to the chemical principles essential for understanding human health and disease. Students will learn and apply general, organic, and biochemistry topics with scientific reasoning to understand clinical scenarios and interpret diagnostic laboratory values. In lab, students will practice good record keeping, chemical hygiene, safety, and scientific thinking.

CH-142 Integrated Chemistry Principles I *(3 credits)* An introduction to the principles of chemistry, this course begins a two semester sequence that integrates information from all aspects of chemistry while focusing on the core principles of the relationships between energy, the structure of atoms and molecules, and atomic and molecular properties and reactivity. Topics include energy, reactions, atomic structure, elemental properties, bonding, and molecular properties. Corequisite CH143. *(N)*

CH-143 Integrated Chem Principles I Lab *(1 credits)* This semester will focus on learning good laboratory practices, primarily through the quantitative analysis of compounds. The quantitative analysis of materials and an understanding of reproducibility and bias are relevant to many fields, including medical analysis or the analysis of contaminants in the environment. This course will also teach you how to keep an excellent laboratory notebook, identify safety hazards in the lab, and complete data analysis and graphing in Excel. All of these tools will serve you well in a variety of careers. CH142 is a corequisite of this course. A lab fee is associated with this course. *(N, QS)*

CH-144 Integrated Chemistry Principles II *(3 credits)* An introduction to the principles of chemistry, this course completes a two semester sequence that integrates information from all aspects of chemistry while focusing on the core principles of the relationships between energy, the structure of atoms and molecules, and atomic and molecular properties and reactivity. Topics include thermodynamics, equilibrium reactions, acid/base and redox reactions, kinetics and nuclear reactions. Prerequisite: CH-142. *(N)*

CH-145 Integrated Chemistry Principles II Lab *(1 credits)* This semester will focus on learning good laboratory practices, primarily through the quantitative analysis of compounds. The quantitative analysis of materials and an understanding of reproducibility and bias are relevant to many fields, including medical analysis or the analysis of contaminants in the environment. This course will also teach you how to keep an excellent laboratory notebook, identify safety hazards in the lab, and complete data analysis and graphing in Excel. All of these tools will serve you well in a variety of careers. Prerequisite: CH-143. *(N, QS)*

CH-150 Accelerated General Chemistry I *(4 credits)* This course and accompanying lab provide a comprehensive overview of general chemistry, tailored for students with a solid foundation in chemical principles. General chemistry topics will be covered in an applied manner that moves more quickly and deeply into topics with an emphasis on conceptual understanding, quantitative problem-solving, and real-world applications. The lab will reinforce theoretical concepts from the class while stressing critical thinking and examination of evidence. Students must have achieved a score of 4 or 5 on the Advanced Placement Chemistry exam or have instructor permission to enroll in this course.

CH-151 Accelerated General Chemistry II *(4 credits)* This course reinforces and expands on students' knowledge of topics traditionally covered in general chemistry course sequences. Students will learn theoretical underpinnings of foundational chemistry concepts and their relationship to scientific inquiry. A 4-hour weekly laboratory session introduces students to more sophisticated laboratory methods and characterization techniques. Prerequisite: CH-150.

CH-199 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary with topic.

CH-210 Chemistry and Biochemistry Seminar *(1 credits)* This course is designed to begin the journey for from students of science to citizens of the scientific community. During the semester speakers will present topics which will help inform the students about the opportunities for research and collaboration. Additionally, an emphasis will be made on post-graduation career opportunities and planning. Must have at least sophomore standing and have a POE in Chemistry, Biochemistry or Chemistry Secondary Education.

CH-211 Chemistry Prof. Development Seminar *(1 credits)* In this course, students will reflect on how their education in chemistry, biochemistry, and related disciplines is preparing them for post-college careers. Students will be supported to develop application materials and guided in identifying and applying for opportunities related to their studies and interests (internships, graduate programs, or jobs).

CH-221 High-Energy Materials *(3 credits)* This course provides fundamental scientific insights into primary and secondary explosives, propellants, rocket fuels, and pyrotechnics. It focuses on chemical explosives and provides a brief historical overview and developments of energetic materials. It introduces ecological aspects and human-toxicity issues associated with the use of explosives and discusses efforts to find safer alternatives. Prerequisite: FYC-101 *(WK-SP)*

CH-222 Inorganic Chemistry *(4 credits)* CH 222 is a one-semester course of Inorganic Chemistry that builds on chemistry knowledge acquired in CH-142 (Integrated Chemistry Principles I). The Inorganic Chemistry course is designed for all students having "chemistry" in their POE title but it will serve any student who wants to learn about "chemistry of elements" because it covers chemistry of all elements from the periodic table with exception of organic carbon chemistry. The class also introduces students to theoretical concepts such as molecular symmetry, molecular spectroscopy, and theory of complexes. Part of the class is a 4-hour laboratory session which introduces students into synthetic inorganic chemistry and characterization of inorganic compounds. Syntheses, reactivity, and characterization of main group element compounds and transition metals will be practiced. Pre-Req: CH-142 and CH-143. Pre-Req or Co-Req: CH-144 and CH-145. *(N)*

CH-232 Organic Chemistry I *(3 credits)* Students enrolled in CH-242 will become familiar with the fundamental concepts and nomenclature needed to understand and communicate organic chemistry. The course is further designed to teach the structure-function relationships that exist across many classes of organic and bio-organic systems, and therefore provide a foundation for further study in chemistry, biochemistry, biology, and medicine. Prerequisite: CH-144; Corequisite: CH-233. *(N)*

CH-233 Organic Chemistry I Lab *(1 credits)* This course will utilize techniques learned in CH-145 and carry out experiments illustrative of concepts learned in CH-232. The course will focus on spectroscopy, organic laboratory techniques and reactions, and compound characterization. This course will also reinforce good record-keeping skills continue to stress safe lab practices. A lab fee is associated with this course. Pre-Req: CH-145. Pre- or Co-Req: CH-232. *(N)*

CH-252 Analytical Chemistry *(4 credits)* This course focuses on the methods that chemists use to identify and quantify compounds of interest and measure their physical properties. Classroom and laboratory time will be spent considering experimental design, measurement techniques, and validation of results in a variety of chemical contexts. Prerequisites: CH-144 and CH-145. Note: A special lab fee is assessed. *(N, QS)*

CH-299 Special Topics *(1-4 credits)* Allows the department to teach special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary with topic.

CH-304 Pollutant Chemistry *(3 credits)* To be able to predict the behavior of and remediate pollutants in the environment requires understanding the chemistry of both environmental systems and specific pollutants. In this course we'll apply core chemical principles to specific systems and pollutants, building the skills to help you understand and solve environmental challenges. Prerequisite: CH-222 or CH-232 or CH-252.

CH-312 Biochemistry *(3 credits)* The fourth semester of the introductory Chemistry series, this course pulls content from chemistry, biology, mathematics, and history to provide an integrated view of biochemistry.

Topics include the use of thermodynamics, equilibrium, non-covalent interactions, kinetics, separations, biomolecular structure, and genetics to probe and explain biological phenomenon. Prerequisites: Take BI-102 or BI-106 (or have instructor's permission) and take CH-232 or CH-242. *(N)*

CH-317 Biochemistry Lab *(1 credits)* This laboratory will explore biochemistry techniques while practicing experimental design, data analysis, and troubleshooting. Students will be equipped with the practical skills and theoretical understanding necessary for analyzing biological molecules and will gain hands-on experience in methods used to quantify and characterize biomolecules such as carbohydrates, proteins, and DNA, while also exploring enzymatic activity and inhibition. Prerequisite or corequisite: CH-312.

CH-332 Organic Chemistry II *(4 credits)* A continuation of the study of organic chemistry begun in CH-232 and CH-233. Special emphasis is placed on advanced aspects of structure and reactivity, with careful attention to the methodology and tools of synthesis. Topics include aromatic chemistry, enolate chemistry, pericyclic reactions, retrosynthetic analysis and various aspects of stereoselectivity. Prerequisites: Take CH-232/233 or CH-242/243. *(N)*

CH-340 Wine Chemistry *(2 credits)* This is a 2-credit course dealing with the theoretical study (1 credit) of chemical processes that are involved in wine formation and that influence appearance, flavor, and aroma of different wines including such topics as barrel aging and corkage, wine and health, wine faults, and wine laboratory practices and procedures associated with vineyard to bottling lifecycle of wine. An intensive hands-on component (4 hours a week) enabling authentic experience of wine-grapes growing, wine making and wine tasting is part of the course (second credit). Prerequisites: 2 semesters of college Chemistry or permission of the instructor. Must be 21 years of age or older. *(N)*

CH-351 Biophysical Chemistry *(3 credits)* In this course students will investigate the physical characteristics and interactions of matter. Topics covered will include quantum mechanics, spectroscopy, thermodynamics, and kinetics, within the contexts of biochemistry. Prerequisites: CH-144, MA-130, and PC-202.

CH-353 Physical Chemistry Laboratory *(1 credits)* In this course, students will gain hands-on practice at obtaining data pertinent to physical chemistry through laboratory experiments. Experiments will be performed that highlight material from Physical Chemistry I (CH-352). A significant component of each lab will involve molecular modeling. *(N, Q, CW)*

CH-356 Thermodynamics & Chemical Kinetics *(3 credits)* In this course students will investigate the physical characteristics and interactions of matter. Topics covered will include thermodynamics, and kinetics, within the contexts of chemistry and biochemistry. Prerequisites: CH-144, MA-130, and PC-202.

CH-360 Quantum Chemistry & Spectroscopy *(3 credits)* In this course students will investigate wave/particle duality of matter, and its interactions with light. Topics covered will include quantum mechanics, and spectroscopy applied to chemical systems. Prerequisite: CH-144, MA-130, and PC-202. A second semester of physics (PC-201, PC-203) and an additional math course (MA-160, MA-230) is highly recommended.

CH-362 Chemical Synthesis *(2 credits)* CH-362 is an advanced laboratory-based organic and organometallic synthesis class. Through the completion of two to three multi-component projects, students will gain a better understanding of the requirements of advanced laboratory research and will learn how to communicate as organic chemists. Overall, the course is designed to help students mature into skilled citizens of the scientific community. Prerequisite: CH-232. *(N, CW)*

CH-372 Instrumental Methods *(3 credits)* The primary tools that chemists use to characterize chemical species involve increasingly complex instrumentation. We will explore the principles and methodology of various types of instrumental methods and will analyze data resulting from these techniques. Prerequisite: CH-232 or CH-242. *(N)*

CH-385 Advanced Chemistry Lab *(2 credits)* This course is a culmination or capstone of your laboratory experiences. You will draw upon your knowledge and experience from previous classes to identify a chemistry related question, design experimental work, and report your findings. The focus of each semester will vary depending on the specific instructors. Prereqs: CH-222, CH-232, CH-252, CH-312, and CH-352, plus junior or senior standing.

CH-399 Special Topics *(1-4 credits)* Advanced specialized topics in chemistry and related areas. Topic titles may vary from semester to semester. Note: abbreviated ST: (title); students may take more than one "ST:" course for credit. Offered at the discretion of the department to qualified students.

CH-401 Advanced Organic Chemistry *(3 credits)* Discusses selected topics in organic chemistry with emphasis on general principles, including chemical bonding. Recent literature is used. Prerequisite: CH-332 or CH-262. *(N)*

CH-406 Advanced Inorganic Chemistry *(3 credits)* Completes an introductory study of inorganic chemistry at an undergraduate level. Theoretical topics, like electronic structure (molecular orbital theory), molecular symmetry, theories about complexes, reaction mechanisms of complexes, catalysis, introduction to solid state chemistry, and a role of metals in life processes are covered. Students will become familiar with inorganic chemistry journals, SciFinder and the Cambridge Structural Database. Prerequisite: CH-222. *(N)*

CH-460 Biochemistry of Metabolism *(3 credits)* This course explores the biochemical processes regulating metabolism, covering pathways like glycolysis, the citric acid cycle, and lipid metabolism. Students will study hormonal regulation, metabolic diseases, and tissue-specific pathway integration. Through lectures, a proposal paper, and presentation, students will gain practical and theoretical knowledge to analyze metabolic processes in health and disease. Prerequisite: CH-312.

CH-486 Chemical Sciences Capstone 1 *(3 credits)* The capstone experience for students within the Department of Chemistry and Biochemistry gives students an opportunity to exercise and apply knowledge and skills developed through their POE coursework. Required for all senior-year POE students under our departmental umbrella, the two-semester capstone is divided into a thesis and non-thesis track, with both tracks challenging students to question and think holistically about a focused field of chemistry research. Must have senior standing and a declared POE in the Chemistry and Biochemistry Department.

CH-487 Chemical Sciences Capstone 2 *(2 credits)* The capstone experience for students within the Department of Chemistry and Biochemistry gives students an opportunity to exercise and apply knowledge and skills developed through their POE coursework. Required for all senior-year POE students under our departmental umbrella, the two-semester capstone is divided into a thesis and non-thesis track, with both tracks challenging students to question and think holistically about a focused field of chemistry research. Prerequisite: CH-486. Must have senior standing and a declared POE in the Chemistry and Biochemistry Department.

CH-488 Chemistry & Biochemistry Capstone I *(0 credits)* This course is a non-credit-bearing course to mark the submission of Capstone Portfolio Contribution #1, which demonstrates a student's analytic and/or creative thinking and depth of knowledge in an academic field. Requires senior standing.

CH-489 Chemistry & Biochemistry Capstone II *(1 credits)* In this course, students will reflect on the totality of their chemistry or biochemistry education and relate it to their broader Juniata education. Requires senior standing.

CH-490 Chemistry Internship *(1-9 credits)* Corequisite: CH-495. Must have sophomore, junior, or senior standing. *(N)*

CH-493 Senior Thesis *(2 credits)* Designed for students who are carrying out senior research; students will write a senior thesis describing their work, part of the requirements for graduating with a distinction in chemistry, and prepare an oral presentation of their work. Corequisite: CH-494 *(CW)*

CH-494 Chemistry Research *(1-4 credits)* Individual research projects directed by faculty members. Prerequisite: Permission of the instructor. *(N)*

CH-495 Internship Seminar *(1-6 credits)* Requires students to reflect on the internship experience and /or pursue research related to the placement. Corequisite: CH-490. Must have sophomore, junior, or senior standing. *(N)*

CH-499 Chemistry Special Topics *(1-4 credits)* Allows departments to offer topics not normally taught. Prerequisites and corequisites vary by title. *(N)*

CH-INS Independent Study *(1-4 credits)*

CH-TUT Chemistry Teaching Assistant *(1-4 credits)* See catalog.

CRIMINAL JUSTICE (CJ)

CJ-260 Introduction to Criminal Justice *(3 credits)* Explores the nature of crime, the history of criminal justice, and the process of the modern justice system.

CJ-360 Policing in the United States *(3 credits)* This course will examine the history, organization, functions, and current issues among policing in the United States. Some of the issues discussed will be race & community relations, militarization, use of force, discretion, subculture, and policing strategies. Students will evaluate each issue to learn its causes and ways in which society can better address these concerns. Prerequisite: CJ-260 or SO-260.

CJ-361 Criminalistics *(4 credits)* This course will debunk popular misconceptions about crime scene investigation. Students will learn to apply social inquiry and scientific methods to investigate a simulated crime scene. In labs and lectures, students will work in small groups to collect evidence, build a case, and then present an affidavit of probable cause to the "court."

CJ-362 Juvenile Justice *(3 credits)* The issues, trends, and challenges facing juvenile justice professionals are explored in this course. The history and philosophy of juvenile justice, processing, detention, and diversion of juvenile offenders are topics of the course. Pre-Req: FYC-101. *(SW-ER)*

CJ-370 Crime & United States Court System *(3 credits)* This course will explore the purpose, structure, function of criminal courts in the United States. There will be specific attention placed on adjudication, prosecution, defense, and sentencing of offenders in the criminal justice system. Students will learn about

various reforms affecting the courts regarding sentencing, the impact extralegal factors, and judicial selection. Prerequisite: CJ-260 or SO-260.

CJ-380 U.S. Correctional System *(3 credits)* The course investigates the history, ideologies of punishment, and various types of punishments given to convicted individuals in the United States. Students learn about most common sanctions likes probation, intermediate sanctions, jail, and prison. Special attention is placed on reentry of those leaving incarceration and the troubles that they face readjusting to society. Prerequisite: CJ-260 or SO-260.

CJ-490 Criminal Justice Internship *(1-9 credits)* Must have sophomore, junior, or senior standing and required approvals. Corequisite: CJ-495.

CJ-495 Internship Seminar *(1-6 credits)* Must have sophomore, junior, or senior standing and required approvals. Corequisite: CJ-490.

CJ-INS Independent Study *(1-4 credits)* See catalog.

CJ-TUT Criminal Justice Teaching Assistant *(1-4 credits)*

COMMUNICATION (CM)

CM-001 Non-Credit Communication Internship *(0 credits)* An opportunity to gain transcript recognition for summer employment in the communications field. Employment should be 10 weeks long. Arrangement must be made with Internship Director in advance of employment. Note: See the chapter "Special Programs" under Internships; listed as Internship: (title). Prerequisite: Permission.

CM-131 Interpersonal Communication *(4 credits)* Communication is the fundamental ingredient in personal relationships. This course introduces students to the theories and methods that communication scholars employ to understand how we build social bonds in friendships, partnerships, and families. A course project will provide students opportunity to reflect on and improve their own relationships. Pre- or co-requisite: FYC-101. *(WK-SI)*

CM-132 Message Analysis *(3 credits)* The study of rhetoric investigates the art of persuasion. The course introduces the basic rhetorical concepts and language we need to make sense of the sea of messages we swim in. The course aims to sharpen your ability to reason, reflect, send, perceive and discern messages in a variety of contexts. Upon completion of this course, students understand several humanistic perspectives toward communication and are able to apply the basic tools of rhetorical analysis. Students have an increased awareness of the ways in which our symbolic behaviors shape our social lives. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109. *(H, CS, WK-HT)*

CM-133 Mass Media and Society *(3 credits)* This course provides an orientation to media industries, the academic field of media research, and the influence of media on our politics, society, and everyday lives. Through a broad survey of media technology, theory, issues, and policy, it offers a media literacy framework for critically evaluating media use and content, and positions you as a critical consumer, scholar, and citizen.Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109. *(H, CS, WK-HT)*

CM-199 Special Topics *(1-4 credits)* Allows departments to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by topic.

CM-200 Art of Public Speaking *(3 credits)* Seeks to develop and improve fundamental principles and methods of selecting, organizing, developing, and communicating a line of reasoning and evidence for constructive influence in speaking situations. Students make three formal presentations, analyze messages, and improve their listening skills. *(CS, H)*

CM-210 Race and Language in the United States *(3 credits)* This class examines racism as a cultural system observed through our beliefs and practices about spoken English. The goal of the course is to develop an understanding of how linguistic prejudice contributes to the cultural programs of racism in the US. *(SW-US)*

CM-214 Cinderella *(3 credits)* Surveys the historical and cultural origins and pathways of the Cinderella story. Students use folk-tale research to identify the thematic content of the Cinderella story, explore its reach, and understand its ubiquity in American popular culture. The course includes a major project for which students conduct library research in order to write an original Cinderella based in a culture for which we do not have an extant copy. Prerequisites: FYC101, EN110, or EN109. *(CA, H)*

CM-220 Group Communication *(4 credits)* This course is designed to improve communication in small-group task and problem-solving situations. We will explore ways of developing communication strategies for effective participation in groups. Students will gain practical experience using these skills and theories by working as a group to address the needs of a community partner. Pre- or Co-Requisite: FYC-101. *(H, CS, SW-LE)*

CM-240 Introduction to Storytelling *(3 credits)* This course aims to develop a deeper understanding of the art of storytelling and the ability to create narratives for specific and diverse audiences and purposes across multiple mediums. To be able to create impactful stories that can achieve the goals we set as storytellers, we will focus on audience analysis, narrative structure and storytelling for different mediums. AI and ChatGPT will be used to explore the ideas of intercultural sensitivity, empathy, perspective, and humor in storytelling.

CM-241 Introduction to Media Practice *(4 credits)* This course is required as the gateway to all future media production courses. Students will learn about contemporary media practices such as film, video, digital/online, and social media production, and how these practices are formed by technical and social constraints. Students will work hands-on with video and new media equipment to apply what they have learned. Prerequisite: CM-133.

CM-245 Photojournalism: the Ethics of Seeing *(3 credits)* This introductory course explores the ethical responsibility in photojournalism. We all take pictures and know of photos that have changed us and changed the world. What are the ethics of seeing - a technical term which questions point of view and the understanding of the cultures and social issues portrayed. Pre-req or co-req: FYC-101 or EN-110 or EN-109 *(F, H, SW-ER)*

CM-261 Communication Studies Abroad I *(2 credits)* Students will spend the spring semester preparing for a trip abroad to visit a partner institution. Students will cover topics in the field of Communication such as intercultural and group communication and learn about the target country/culture through film, guest speakers, news, and readings. During the summer term, we will travel to the country for two weeks. Students must take both CM-261 and CM-262. NOTE: The total fee for the experience is split between the two courses, with half on the spring semester billing and the other half on the summer term billing. *(I, H, SW-GE)*

CM-262 Communication Studies Abroad II *(1 credits)* Students will spend the spring semester preparing for a trip abroad to visit a partner institution. Students will cover topics in the field of Communication such as

intercultural and group communication, and learn about the target country/culture through film, guest speakers, news, and readings. During Summer Term, we will travel to the country for two weeks. Prereq: CM-261. NOTE: The total fee for the experience is split between CM-261 and CM-262, with half on the spring semester billing and the other half on the summer term billing. *(I, H, SW-GE)*

CM-263 Digital Audio Production *(3 credits)* Digital Audio Production introduces the student to the fundamentals of capturing, editing and reproducing sound, using digital tools. Hands-on studio work combines with basic acoustic theory to help conceptualize the bridge between the analog and digital worlds. *(F, CTDH)*

CM-288 Strategic Communication *(3 credits)* This course will introduce students to strategic communication theory as it informs practices and skills that organizations employ to achieve goals. Students will learn about communicating with various stakeholders across corporate, non-profit, and public service organizations. This includes designing messages on behalf of social causes and corporate interests that are intended for diverse audiences. Prerequisite: CM-130 or CM-132 or CM-133.

CM-289 Communication Practicum *(1-3 credits)* A practicum in Communication encourage students to: (1) develop skills in analyzing and delivering public presentations; (2) assess, interpret and analyze messages data among diverse audiences; (3) understand speech communication in a variety of contexts; (4) appreciate public address from a historic perspective; and (5) participate actively in the communication field. *(F, H)*

CM-290 The Metaverse *(3 credits)* This introductory course focuses on how information technologies shape the way we think and organize ourselves. In studying the technology of the book, social media and the metaverse, students explore change and technology as central to the decision making of leaders. Prerequisites: CM133 or IT110 or IT111. *(H, CW, CS)*

CM-299 Special Topics *(1-4 credits)* Allows departments to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by topic.

CM-300 Professional Presentations *(3 credits)* Designed for students to improve and polish their speaking skills for effective presentations in professional settings. It is a performance course with emphasis placed on speech structure, audience adaptation, style of presentation (oral report and manuscript reading), with the use of PowerPoint and/or Prez1. Video is used to help speakers understand the relationship between their speaking behaviors and responses of listeners. Prerequisites: CM200. *(CS, H)*

CM-310 Understanding Health Inequity *(3 credits)* In this class, students will learn how to read, understand, and conduct social research about individuals and systems that create disparity in health care and outcomes. The research that we will read and learn to conduct will rely on texts and stories rather than numbers and statistics. The class will address questions such as: what conditions are present that allow some populations greater access to health care than others? What social problems underlie the disparities in health outcomes for women, people of color, and people from low-income backgrounds. Students will gather and analyze their own research data. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109 *(S, WK-SI)*

CM-330 Media Analysis *(3 credits)* Designed to explore analytical approaches applied to a variety of media, including advertising, television sitcoms, new shows, propaganda, film, music and architecture, in order to ascertain the persuasive messages inherent in each artifact. By examining the rhetorical choices revealed by each method of criticism, we can better understand the structure of message design, the medium and in a larger sense the cultural values that shape both. Prerequisites: CM132 or CM133. *(H, CW, CS)*

CM-340 Intercultural Communication *(3 credits)* This course examines symbolic patterns of communication as they relate to issues of diversity. Interactive skills needed to open channels of communication between and among people of diverse backgrounds are analyzed and developed. A multi-cultural approach to the study of human communication serves as a basis for exploring issues of diversity that include but are not limited to race, gender, class, ability, orientation, religion and ethnicity. Prerequisite or corequisite: FYC-101. *(H, I, SW-GE)*

CM-341 Intermediate Media Practice *(4 credits)* In this course, students will self-produce a full media project. They will learn the critical steps of development, pre-production, production, and post-production while developing a producer's skill in managing a media project from start to finish with the intent for public exhibition. Prerequisite: CM-241. *(CTDH)*

CM-342 Documentary History & Theory *(4 credits)* This course examines some of the history and theories of nonfiction media. Through visual and written texts, we will survey the nonfiction film genre, considering technological innovations, ethical issues, formal movements and grassroots expressions which all relate to the concept of the "real" and the political implications surrounding the production of "realness." Prerequisite: CM-133.

CM-363 Digital Video Production I *(3 credits)* Digital Video Production I is a practical hands-on experience with cinematography, audio production, and lighting. Students learn the necessary skills to tell a well-produced digital story with appropriate technical knowledge to enhance the narrative and audience engagement. This course will teach students how to work as a professional videographer by expanding digital media knowledge and techniques. Students will learn the technical foundations of video production, camera operation, lighting, audio acquisition, and editing. Students will be encouraged to investigate the impact of video content based on the viewer in addition to artistic potential through digital storytelling. Prerequisite: AR-102 or IM-110. *(F)*

CM-365 Organizational Communication *(3 credits)* Examines the strategic uses of communication by individuals in organizations and by organizations as a whole in the pursuit of organizational goals. Provides students with a theoretical vocabulary to analyze communication in organizational settings in order to understand processes such as social networks, leadership, and power. Focuses on personal and organizational ethics in work place communication. Prerequisites: CM130 and CM230 and CM220. *(H, S, CW)*

CM-388 Public Communication Campaigns *(3 credits)* Provide catalog description here: This course examines the strategies and effects of public communication campaigns aimed at informing and persuading audiences in health, political and environmental contexts. During the semester, students will develop, execute, measure, and analyze a real-world communication campaign within the community. Course Prerequisite: CM-130 or CM-132, or CM-133.

CM-399 Special Topics *(1-4 credits)* Allows departments to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by topic. *(H)*

CM-400A Health Communication *(3 credits)* Explores how communication functions to promote health, the important role of information in health care, the development of communication campaigns to promote health awareness, alternative and multicultural approaches to health care, the promotion of ethical health communication, and the use of new health communication technologies. Prerequisite: CM-130 or CM-132 or CM-133. *(H, SW-LE)*

CM-401 Senior Seminar *(1 credits)* Senior Seminar in Communication is an opportunity to refine your understanding of your communication POE and experiences and their application to the professional world of business or graduate school. Students will reflect on their communication expertise, prepare resumes and interwiewing techniques, network with alums in communication, and communicate their expertise. This course intends to make explicit the strong knowledge base acquired in a Communication POE and to explore the opportunities available in the field of communication. Prerequisites: Senior standing. *(H)*

CM-405A Women, Work & Identity *(3 credits)* Women. Work. Identity. These three words are related in a complex web that many of us struggle to untangle for our entire working lives. In this course, we identify and name the components of the relationships among these words--all in the context of the unique perspective that the communication discipline offers. Prerequisites: CM130 or CM230 or CM220 or CM365 or permission of the instructor. *(S)*

CM-420A Hollywood Films *(3 credits)* In this course we explore one visual medium: film. Hollywood film is understood as mainstream media which is meant for a general audience and with strong box office constraints. A rhetorical perspective insists on the presence of an audience which is not necessarily of interest in all types of film study but will be crucial in our discussions. We relate theories, methods of production, and criticism to our work but it is not limited to them. This course is an opportunity for students to explore what mainstream films mean and why they are such an important cultural phenomenon. Prerequisites: CM132 or CM133. *(H, CW)*

CM-420D Truth and Lying *(3 credits)* This media studies course introduces students to the theories of rhetoric to understand the question, who can we trust? We pay special attention to the classical period of Rhetoric and the Rhetoric of the 20th century. Rhetoric has been transformed through media. Despite these transformations, rhetoric has always been considered of first importance for the ethical practical conduct of our everyday lives. How we present or lives our beliefs, attitudes, and commitments is indeed the concern of when we lie and who we can trust in our personal and public lives. Prerequisites: CM132 or CM133. *(H, CW)*

CM-420E Digital Storytelling *(3 credits)* Digital stories derive their power in weaving images, music, narrative and voice together, and thereby giving deep dimension and vivid color to characters, situations, experiences, and insights. This course offers students the opportunity to experiment with narratives and their visualization using digital media technologies as a vehicle to tell stories creatively with a clear point of view and audience awareness. Prerequisite: CM-130 or CM-132 or CM-133. *(H, F, CTDH)*

CM-463 Digital Video Production II *(3 credits)* Digital Video Production II allows students to work from ideas to a final video production that is ready to showcase at a film premiere, enter into film competitions, or share with a client as a professional commercial for their business. From pre-production planning to post-production editing, students will work on a series of videos with full creative rights. Students will be required to oversee planning, storyboarding, shooting, editing, and final exporting. Prerequisite: CM-363 or IM-360. *(F, CTDH)*

CM-488 Crisis and Risk Communication *(3 credits)* Crisis and Risk Communication examines corporate and government responses to events, both internal and external, that threaten employees, stakeholders, and the communities they represent. This class will explore ways that institutions effectively manage crisis through the lens of the communication discipline. A study of crisis and risk communication enlists an experience-based approach that provides a method for understanding institutional responses to crisis. Students will work with crisis and risk communication theory to gain a greater appreciation for methods that yield these insights. Prerequisite: CM-130 or CM-132 or CM-133.

CM-490 Communication Internship *(1-9 credits)* Communication students may apply their acquired skills and knowledge to on-the-job internships for a total of 9 credit hours. Corequisite: CM-495. Must have sophomore, junior, or senior standing. *(H)*

CM-495 Internship Seminar *(1-6 credits)* In addition to the on-the-job experience provided by the internship, students are required to pursue research related to their placement. An in-depth research paper or presentation is completed during the semester. Corequisite: CM-490. Must have sophomore, junior, or senior standing. *(H)*

CM-497 Senior Research Seminar *(3-6 credits)* Designed to serve as a capstone course for students who emphasize Communication in their POE. The students will be expected to examine communication theories and research methods relevant to a topic, theme, issue, or problem that has served as an area of special interest throughout the previous years of study. Students must have Senior standing and have a POE in Communication. (Formerly titled Honors Seminar). *(H, CS)*

CM-498 Senior Thesis Research *(3-6 credits)* Designed to serve as a capstone course for students who emphasize Communication in their POE. The students will be expected to examine communication theories and research methods relevant to a topic, theme, issue, or problem thathas served as an area of special interest throughout the previous two years of study. Students must have Senior standing and have a POE in Communication. Prerequisite: CM-497. (Formerly titled Honors Research.) *(H, CS)*

CM-499 Special Topics *(1-4 credits)* Allows departments to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by topic.

CM-INS Independent Study *(1-4 credits)* See catalog. Permission required.

CM-TUT Communication Teaching Assistant *(1-4 credits)* This tutorial provides a structure for the experience of teaching in Communication and reflection on classroom dynamics.

CHINESE (CN)

CN-110 Chinese I *(4 credits)* Begins the introductory phase of acquiring a functional proficiency in modern Chinese. Special attention is paid to spoken Chinese. *(H, I, SW-GE)*

CN-120 Chinese II *(4 credits)* This course is the second half of a beginning level series in modern standard (Mandarin) Chinese. Its goal is to develop communicative competence in listening, speaking, reading, and writing in Mandarin Chinese in the context of Chinese culture. Prerequisite: CN-110 or language placement results. *(H, I, CS, SW-GE)*

CN-199 Chinese Special Topics *(1-4 credits)* For 100-level special topics courses in Chinese.

CN-210 Chinese III *(3 credits)* Chinese 210 is the third part of a four-semester introductory sequence. This course is designed to further develop listening, speaking, reading and writing skills in Chinese. It will continue to train students in pronunciation and tone accuracy, to help them review and strengthen the basic syntax and grammar, build a working vocabulary around various daily situations, and further enhance their understanding of Chinese life and culture. Pre-req: CN110 and 120, or placement test results. *(H, I, CS, SW-GE)*

CN-220 Chinese IV *(3 credits)* Chinese 220 is the second part of the Intermediate Standard Mandarin Chinese course. This course will continue to focus on oral proficiency as well as on the further development

of reading, writing, and listening skills in the context of Chinese Culture. Students will attain approximately the Intermediate-low level on the ACTFL-ETS (American Council on the Teaching of Foreign Languages) proficiency scale. Prerequisites: CN110 and CN120 and CN210. *(H, I, CS, SW-GE)*

CN-299 Chinese Special Topics *(1-4 credits)* For 200-level special topics courses in Chinese.

CN-330 Advanced Chinese *(3 credits)* This is a high-intermediate to advanced Chinese language conversation course that also integrates Chinese reading and writing skills. The course uses videos, audio clips and textbook readings to present different cultural, social, linguistic, and economics topics in Chinese language. Students will gain a deeper understanding of both Chinese language and modern Chinese society. Prerequisites: CN110 and CN120 and CN210 and CN220. *(I, H, CS, SW-GE)*

CN-399 Special Topics *(3 credits)* Allows departments to offer topics not normally taught. Fees and requisites change by topic. *(H, I)*

CN-INS Independent Study *(1-4 credits)*

CONNECTIONS (CONN)

CONN-300 Firing the Frontier *(4 credits)* From cooking hearths to space exploration, ceramic technology is one of the most enduring human inventions. This course explores how artists and archeologists utilize our knowledge of the techniques used by Native People of the Juniata watershed and early colonial potters in contemporary practices. We will engage in research and production of ceramic wares through the lens of history. NOTE: Students are expected to be in their third or fourth year when taking a Connections course. *(CONN, IC)*

CONN-301 Living With Artificial Intelligence *(4 credits)* The field of Artificial Intelligence (AI) has experienced unprecedented growth and is being applied in every industry. At the same time, it is poorly understood, easy to misuse, and often a source of bias and discrimination. This course will cover the history, ethics, and current application of AI with hands-on projects such as AI art and writing, image recognition, and autonomous robots. Students are expected to be in their third or fourth year when taking a Connections course. *(CONN, IC)*

CONN-302 Yoga Theory and Practice *(4 credits)* In the past fifty years, Yoga has become one of India's best-known exports, primarily in the form of physical (Hatha) Yoga. Through a concentrated study of asana, meditation techniques, pranayama, philosophical texts, and scientific reasoning, students will engage with the system of yoga through questioning and analysis as we explore how yoga and meditation became popular in the West. Students are expected to be in their third or fourth year when taking a Connections course. *(CONN, IC)*

CONN-303 Genomics, Ethics, and Society *(4 credits)* The purpose of this course will be to gain an understanding of the science behind the genome project and develop an understanding how ethical norms are established and challenged. Students will discuss and debate the potential implications of this new technology for them as individuals and for society in general. NOTE: Students are expected to be in their third or fourth year when taking a Connections course. *(CONN, IC, CTGES)*

CONN-304 Travel Writing 1 *(2 credits)* How can travel writers experience a place and write in a way that respects all of the aspects of a place and the people? In this course, students will explore travel writing in multiple ways - through reading and analysis of contemporary and classic travel writing, learning and

practicing travel writing techniques, researching the place and people of Iceland, traveling and journaling for two weeks in Iceland, and using written and oral communication to create and distribute their own travel writing about Iceland after they return. Scientific and journalistic ethics will infuse every aspect of this course as students learn to represent travel in an ethical way. NOTE: This is a two-course series, with students earning 2 credits in the spring semester for the predeparture course, and 2 credits in the summer term for the trip to Iceland followed by online post-travel reflection and writing activities. The total fee for the experience is split between the two courses in the series, with the majority of the fee on the spring semester billing and a $250 administrative fee on the summer term billing. Students are expected to be in their third or fourth year when taking a Connections course. *(CONN, IC)*

CONN-305 Travel Writing 2 *(2 credits)* How can travel writers experience a place and write in a way that respects all of the aspects of a place and the people? In this course, students will explore travel writing in multiple ways - through reading and analysis of contemporary and classic travel writing, learning and practicing travel writing techniques, researching the place and people of Iceland, traveling and journaling for two weeks in Iceland, and using written and oral communication to create and distribute their own travel writing about Iceland after they return. Scientific and journalistic ethics will infuse every aspect of this course as students learn to represent travel in an ethical way. NOTE: This is a two-course series, with students earning 2 credits in the spring semester for the predeparture course, and 2 credits in the summer term for the trip to Iceland followed by online post-travel reflection and writing activities. The total fee for the experience is split between the two courses in the series, with the majority of the fee on the spring semester billing and a $250 administrative fee on the summer term billing. Students are expected to be in their third or fourth year when taking a Connections course. *(CONN, IC)*

CONN-307 International Security *(3 credits)* This course examines international security through the lens of political science and peace and conflict studies theories. We devote a large part of the course to a negotiation simulation of an international conflict. NOTE: Students are expected to be in their third or fourth year when taking a Connections course. *(CONN)*

CONN-308 Barbados: Plants, Plntns, Creole Cltr 1 *(2 credits)* Barbados: Plants, Plantations & Creole Culture 1: This Connections course intends that you understand the living landscape -- human and botanical -- as a result of historical processes, decisions, and accidents. Combining historical methods utilizing primary sources along with biological field methods, the natural and anthropogenic dynamics of West Indian botany are at the heart of the inquiry. Students will earn two credits in the fall semester with on-campus meetings and two credits in winter term for the trip to Barbados. NOTES: Students must be 21 years of age or older by the start date of CONN-309 Barbados Plants & Culture 2. Students are expected to be in their third or fourth year when taking a Connections course. The total fee for the experience is split between the two courses, with the majority of the fee on the fall semester billing and a $250 administrative fee on the winter term billing. *(CONN)*

CONN-309 Barbados: Plants, Plntns, Creole Cltre 2 *(2 credits)* Barbados: Plants, Plantations & Creole Culture 2: This Connections course intends that you understand the living landscape -- human and botanical -- as a result of historical processes, decisions, and accidents. Combining historical methods utilizing primary sources along with biological field methods, the natural and anthropogenic dynamics of West Indian botany are at the heart of the inquiry. Students will earn two credits in the fall semester with on-campus meetings and two credits in winter term for the trip to Barbados. NOTES: Students must be 21 years of age or older by the start date of CONN-309 Barbados Plants & Culture 2. Students are expected to be in their third or fourth year when taking a Connections course. The total fee for the experience is split between the two

courses, with the majority of the fee on the fall semester billing and a $250 administrative fee on the winter term billing. *(CONN)*

CONN-310 Revolution! Part 1 *(1 credits)* Revolution! will look at the structure of revolutions, broadly construed. The course will focus on four specific revolutions in the natural and life sciences, followed by a short-term study abroad experience in Eastern Europe, including Vienna, Brno, Prague, and Budapest, during summer term. Students will produce a script and podcast focusing on a specific revolution. Students are expected to be in their third or fourth year when taking a Connections course. NOTE: The total fee for the experience is split between the two courses, with the majority of the fee on the spring semester billing and a $250 administrative fee on the summer term billing. *(H, N, CW, IC, CONN)*

CONN-311 Revolution! Part 2 *(2 credits)* Revolution! will look at the structure of revolutions, broadly construed. The course will focus on four specific revolutions in the natural and life sciences, followed by a short-term study abroad experience in Eastern Europe, including Vienna, Brno, Prague, and Budapest, during summer term. Students will produce a script and podcast focusing on a specific revolution. Students are expected to be in their third or fourth year when taking a Connections course. NOTE: The total fee for the experience is split between the two courses, with the majority of the fee on the spring semester billing and a $250 administrative fee on the summer term billing. *(H, N, CW, IC, CONN)*

CONN-312 Science and Society *(3 credits)* This course on Science and Society is intended to review historical issues in science and the debate that surrounds societal decision-making. Thus, students will examine this topic from the perspective of scientific process and social inquiry. In addition, we will also review current "hot topics" in science, research these topics from various aspects including societal impacts and scientific advancements. They will also discuss potential resolutions, moving toward becoming more scientifically literate. We will also be discussing current "popular" books on related science. Ultimately, we will compare what the scientists are saying in professional journals versus the interpretation presented to the general public. NOTE: Students are expected to be in their third or fourth year when taking a Connections course. *(CONN)*

CONN-313 Science Policy *(3 credits)* In this course, we will explore how science and technology influence, and are in turn influenced by, U.S. public policy. We will also discuss how a scientific "consensus" is built and challenged. We will analyze scientific policies, while working to understand the impact of these policies on the development of science as well as that of the nation. NOTE: Students are expected to be in their third or fourth year when taking a Connections course. *(CONN, IC)*

CONN-314 Global Climate Change *(4 credits)* This course examines the science and politics of global climate change, including data and analyses in the assessment reports of the UN Intergovernmental Panel on Climate Change. The course also examines how governments and other political actors craft and shape policies related to climate change. Special attention will be placed on the extent to which public policy is influenced by scientific evidence and political considerations. NOTE: Students are expected to be in their third or fourth year when taking a Connections course. *(CONN, IC)*

CONN-315F Ways of Well-Being (Fall) *(3 credits)* Mindfulness, Surfing, and Taijiquan (Tai Chi) are hobbies, sports, lifestyles, and pathways to well-being. Principally, this course is aimed at helping you to cultivate a path towards enhanced personal and collective well-being. The course includes a week-long trip to Costa Rica, where students will enjoy surfing, practicing meditation and Tai Chi, and exploring one of the most beautiful places on Earth. Students are expected to be in their third or fourth year when taking a Connections course. Note: CONN-315F is the first course in a two-course series, with students earning 3 credits in the fall

semester for the predeparture course and 1 credit in the winter term for the trip to Costa Rica. The total fee for the experience is split between the two courses, with the majority of the fee on the fall billing and a $250 administrative fee on the winter term billing. *(CONN, IC, I)*

CONN-315S Ways of Well-Being (Spring) *(4 credits)* Mindfulness, Surfing, and Taijiquan (Tai Chi) are hobbies, sports, lifestyles, and pathways to well-being. Principally, this course is aimed at helping you to cultivate a path towards enhanced personal and collective well-being. The course includes a spring break trip to Costa Rica, where students will enjoy surfing, practicing meditation and Tai Chi, and exploring one of the most beautiful places on Earth. NOTES: 1) While this course includes a study abroad component, it counts towards the Connections requirement, not the Self & The World Global Engagement requirement. 2) Students are expected to be in their third or fourth year when taking a Connections course. *(CONN, IC, I)*

CONN-315W Ways of Well-Being (Winter) *(1 credits)* Mindfulness, Surfing, and Taijiquan (Tai Chi) are hobbies, sports, lifestyles, and pathways to well-being. Principally, this course is aimed at helping you to cultivate a path towards enhanced personal and collective well-being. The course includes a week-long trip to Costa Rica, where students will enjoy surfing, practicing meditation and Tai Chi, and exploring one of the most beautiful places on Earth. Students are expected to be in their third or fourth year when taking a Connections course. Note: CONN-315F is the first course in a two-course series, with students earning 3 credits in the fall semester for the predeparture course and 1 credit in the winter term for the trip to Costa Rica. The total fee for the experience is split between the two courses, with the majority of the fee on the fall billing and a $250 administrative fee on the winter term billing. *(CONN, IC, I)*

CONN-320 The Politics and Cultures of Migration *(3 credits)* In this course, you will gain an understanding of many aspects of migration, such as the motivations, obstacles, and dangers of migration; the evolution of US immigration laws; the the economic, political, and cultural impact of migration on US, Mexican, and Central American societies. NOTE: Students are expected to be in their third or fourth year when taking a Connections course. *(CONN, IC)*

CONN-321 Musical Acoustics *(4 credits)* This course covers concepts of physics as applied to music. Topics include sound and resonance, pitch and tuning systems, psychoacoustics, anatomy of the ear, workings of musical instruments, electronic music fundamentals and literature, a review of musical notation, aural recognition of intervals and pitches, instrument design/construction, and performance. NOTE: Students are expected to be in their third or fourth year when taking a Connections course. *(CONN)*

CONN-324 Origins & Destiny of the World *(4 credits)* This course studies scientific and religious accounts of the origin of the world and predictions about its destiny. Topics include the Big Bang, formation of Earth, evolution of humans, biblical and other ancient stories of creation and the worldwide flood, and scientific theories and religious visions of the end of the world. We will pay special attention to how scientific and religious perspectives on these topics interact and relate to one another. NOTE: Students are expected to be in their third or fourth year when taking a Connections course. *(CONN, IC)*

CONN-325 Theatre of the Observed *(3 credits)* Is empathy a thought or an action? Is it something we have, give, enact, or embody? How is empathy communicated? In this course, we examine the nuances of empathy through reading, speaking, observing, and embodied action. The course brings together methods of social inquiry and creative expression in order to produce an original verbatim theatrical performances and reflection on the human experience known as empathy. NOTE: Students are expected to be in their third or fourth year when taking a Connections course. *(CONN, IC)*

CONN-331 Battlefield Detectives *(4 credits)* The course will introduce the cultural, historical, and geological aspects of the field of geoarchaeology. We focus on how different people interacted and behaved in the past through analysis of the items preserved in the geological record. NOTE: Students are expected to be in their third or fourth year when taking a Connections course. (Formerly titled: Geoarchaeology) *(IC, CONN)*

CONN-340 Extracting Appalachia *(4 credits)* This course will use case studies to explore the impacts and legacies of extractive industries on the Appalachian region and its inhabitants. Students will work collaboratively with peers and faculty with different perspectives than their own in order to explore multi-faceted problems from many directions and to propose solutions that address these problems. NOTE: Students are expected to be in their third or fourth year when taking a Connections course. (Formerly titled "Environmental Justice") *(CONN, IC)*

CONN-350 Community Health Advocacy *(3 credits)* In this course, students learn to recognize health disparities within communities and identify ways to intervene and advocate to promote better health outcomes for community members. Students will explore how poor health outcomes for individuals and communities are linked to social determinants of health. This course uses the competencies for community health workers established by the Pennsylvania Certification Board. NOTE: Students are expected to be in their third or fourth year when taking a Connections course. *(CONN, IC)*

CONN-390 Environmental Voices I *(2 credits)* This interdisciplinary course series examines environmental justice and regional extraction by comparing two rural regions: Huntingdon County, Pennsylvania, and Sumter County, Alabama. It uses a humanist pedagogical approach and a dual-lens methodology, integrating insights from the humanities (specifically digital media, storytelling, and visual arts) with critical insights from the social sciences. It consists of two components: CONN-390, the 2-credit predeparture course during the spring semester, and CONN-391, a 2-credit study-away course, during which the class will travel to Alabama for two weeks during summer term. Students are expected to be in their third or fourth year when taking a Connections course. NOTE: The total fee for the experience is split between the two courses, with the majority of the fee on the spring semester billing and a $250 administrative fee on the summer term billing. *(CONN, IC)*

CONN-391 Environmental Voices II *(2 credits)* This interdisciplinary course series examines environmental justice and regional extraction by comparing two rural regions: Huntingdon County, Pennsylvania, and Sumter County, Alabama. It uses a humanist pedagogical approach and a dual-lens methodology, integrating insights from the humanities (specifically digital media, storytelling, and visual arts) with critical insights from the social sciences. It consists of two components: CONN-390, the 2-credit predeparture course during the spring semester, and CONN-391, a 2-credit study-away course, during which the class will travel to Alabama for two weeks during summer term. Students are expected to be in their third or fourth year when taking a Connections course. NOTE: The total fee for the experience is split between the two courses, with the majority of the fee on the spring semester billing and a $250 administrative fee on the summer term billing. *(CONN, IC)*

CONN-392 Justice and Global Health *(4 credits)* This course will introduce students to important contemporary debates about the nature of justice and global health from a variety of disciplinary perspectives. Topics covered include philosophical approaches to justice, prominent debates within global health around disparate health outcomes, and the impact of neoliberalism on public health systems. NOTE: Students are expected to be in their third or fourth year when taking a Connections course. *(CONN, IC)*

CONN-394 Curating Art, History & Science *(4 credits)* In this course, students will explore the intersection of art, history, and natural science while considering the principles, practices, and ethics used by curators in museum settings. We will examine the ways in which curators work as researchers, collaborators, artists, and activists through a series of case studies focused on ethics, collecting, documentation, communication, scholarly research, exhibition design, and interpretation/education. NOTE: Students are expected to be in their third or fourth year when taking a Connections course. *(CONN)*

CONN-399 Connections Special Topics Course *(3-4 credits) (CONN)*

CONN-TUT Connections Teaching Assistant *(1-4 credits)*

COMPUTER SCIENCE (CS)

CS-001 Non-Credit Computer Science Intership *(0 credits)* Provides students an overview of an organization as well as providing an opportunity for practical application of the skill developed in students' area of concentration. Prerequisite: Permission.

CS-105 Technology Seminar *(1 credits)* Technology Seminar is a topics-based course meant to build awareness in a variety of areas in the computing sciences that are not fully covered in other computer science or information technology courses or where an introduction to the topics provides needed context in the study of other material within the technology disciplines.

CS-110 Computer Science I *(3 credits)* An introductory study of computer science software development concepts. Python is used to introduce a disciplined approach to problem solving methods, algorithm development, software design, coding, debugging, testing, and documentation in the object oriented paradigm. This is the first course in the study of computer science. Recommended programming experience or IT110 or IT100, IT111 or IM110 or MA103 but not necessary. *(N, CTGES, CTGIS)*

CS-116 Discrete Structures *(4 credits)* Discrete Structures (Fall; Yearly; 4.00 Credits; N, Q) Introduces mathematical structures and concepts such as functions, relations, logic, induction, counting, and graph theory. Their application to Computer Science is emphasized. Pre-requisite: high school algebra. *(Q, N)*

CS-199 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites will vary by topic.

CS-220 Computer Organization *(4 credits)* An introduction to digital computer systems including a treatment of logic and digital circuits, data representation, device characteristics and register transfer notation covered in a manner that stresses application of basic problem solving techniques to both hardware and software design. Students gain experience programming in an assembly language to reinforce these systems and design concepts. Prerequisites: CS110. *(N)*

CS-240 Computer Science II *(4 credits)* A continued study of computer science foundations as begun In Computer Science I. An object-oriented language such as JAVA is used to develop and implement large programs involving various data structures and data abstraction as exemplified by packages and modules. Search, sorting, advanced data structures, programming methodology and analysis are emphasized. Prerequisites: CS110 and MA116 or MA210. *(N)*

CS-255C C++ Programming *(2 credits)* The students will prepare a portfolio of computer programs written in the language. The programs are reviewed, critiqued, and then the student has an opportunity to revise them as needed for final inclusion in the portfolio. Prerequisites: CS-110 and Sophomore standing or higher. *(N)*

CS-255U Unix Programming *(1 credits)* The students will prepare a portfolio of basic Unix programs and scripts. The course covers basic Unix commands, editing techniques, regular expression usage, and script building. The programs are reviewed, critiqued, and the student has an opportunity to revise them as needed for final inclusion in the portfolio. Prerequisites: CS110. *(N, CTGES)*

CS-261 AI Fundamentals *(3 credits)* This course explores the latest Artificial Intelligence (AI) breakthroughs in scientific research, creative industries, and technology. Through real-world examples and hands-on activities, students will learn how AI powers scientific discovery and artistic creativity. Whether you're a scientist, artist, or engineer, this course will show you how AI can shape your field and future. No coding or prior experience needed.

CS-299 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

CS-300 Software Engineering *(3 credits)* An introduction to the issues of software design. Topics include software engineering, software project management and development of projects in a modern design environment. The focus of the course is on the process used to develop quality software. The students work in teams to develop, implement and fully document a computer project to apply these concepts. Prerequisite: CS240. *(N)*

CS-305 Software Models *(3 credits)* A study of current software implementation models. Models of procedural based control for both batch and interactive settings, event driven control, real time control and exception handling are considered within representative interactive development environments such as .NET Design of graphical user interfaces for web-based and windows-based applications are integrated into the team projects. Prerequisites: IT240 or CS240. *(N)*

CS-315 Algorithms and Analysis *(4 credits)* The study and analysis of algorithms, their complexity and supporting data structures. Topics include searching, sorting, mathematical algorithms, tree and graph algorithms, the classes of P and NP, NP-complete and intractable problems, and parallel algorithms. Prerequisites: CS240 and MA116. *(CW, N)*

CS-320 Operating Systems *(4 credits)* An introduction to the theory, evaluation, and implementation of computer operating systems. Topics include memory, process and resource management, elementary Queuing and network models, and scheduling. Prerequisites: CS220 & CS240. *(N)*

CS-330 Computer Graphics *(3 credits)* An introduction to both the hardware and software utilized in computer graphics. The emphasis is on a top-down, programming approach, using a standard application programmer's interface. Students will create three-dimensional and interactive applications, in addition to studying several of the classic, low-level, rendering algorithms. Prereq: CS-240. *(N)*

CS-341 Scientific Computing *(3 credits)* This course begins with an introduction to fundamental concepts in Scientific Computing and concludes with domain-specific projects in areas like Bioinformatics, Data Science, Physical Systems, and Numerical Analysis. The common content will include command-line interfaces (Linux), programming languages (Jupyter/Python), numerical and graphical libraries (NumPy and Matplotlib), version-control (Git/Github), and relational databases (SQL). Pre-Req: CS-110. *(N)*

CS-360 Programming Languages *(3 credits)* A systematic approach to the study and analysis of computer programming languages. The underlying concepts of these languages are emphasized. Prerequisites: CS-220 and CS-240. *(N)*

CS-370 Database Management Systems *(3 credits)* Focuses on concepts and structures necessary to design and implement a database management system. Various modern data models, data security and integrity, and concurrency are discussed. An SQL database system is designed and implemented as a group project. Prerequisites: CS110. *(N, CTGIS)*

CS-390 Computer Science in Germany Seminar *(1 credits)* This course will introduce the student to studying computer science in Germany. During the spring semester at Juniata, students will prepare for their travel to Germany by (1) studying the functional German required for travel, (2)reading about the culture and history of the country (and the state of North Rhine-Westfalia in particular), and (3) configuring the technology required for that year's selected topic in CS or IT. (The course content will vary each year.) This course is followed by CS-391, which is given at the Muenster University of Applied Sciences, for between two and three weeks each May or June. The instructor at MUAS will be a Juniata College faculty member. Pre-requisites: CS-240 and instructor permission. A fee of $1,200 is applied that is split between the spring and summer terms and covers instructional costs, tuition, and Juniata College credit. Students will need to purchase their own plane and train fares. The host institution will facilitate housing for the students. *(I, SW-GE)*

CS-391 Computer Science in Germany *(2 credits)* This course is given at the Muenster University of Applied Sciences, for between two and three weeks each May or June. The instructor at MUAS will be a Juniata College faculty member. Pre-requisites: CS-240 and instructor permission. A fee of $1,200 is applied that is split between the spring and summer terms and covers instructional costs, tuition, and Juniata College credit. Students will need to purchase their own plane and train fares. The host institution will facilitate housing for the students. *(I, SW-GE)*

CS-399 Special Topics *(1-4 credits)* An introduction to one of the branches of computer science not currently included in the regular course offerings, such as Theory of Computation, Artificial Intelligence, Parallel processing, computer architecture, etc. Prerequisites: Variable depending upon the course. Note: Students may take each ST course for credit.

CS-480 Computer Science Seminar I *(1 credits)* Discusses current advances in computer science and information technology not otherwise covered in our program such as, but not limited to, networking, artificial intelligence, societal issues. In addition this course allows senior students to plan an individual research project to be completed in CS485. This course, taken by a junior may be repeated as a senior as CS481. Prerequisites: Junior or senior standing and CS220 or CS240 or IT210. *(N)*

CS-481 Computer Science Seminar II *(1 credits)* See CS480. Prerequisite: CS480. *(N)*

CS-485 Computer Science Research *(3-5 credits)* Allows students to carry out the independent computer science research project as designed in CS480 or CS481. Prerequisite: CS480 or CS481. *(N, CW)*

CS-490 Computer Science Internship *(1-9 credits)* A placement with an organization having a data processing department. An in-depth exposure to the practice of computer science in a computer processing environment is provided. Corequisite: CS-495. Requires permission and sophomore, junior, or senior class standing. *(N)*

CS-495 Internship Seminar *(1-6 credits)* Requires students to reflect on the internship experience and/or pursue research related to the placement. Corequisite: CS-490. Requires permission and sophomore, junior, or senior class standing. *(N)*

CS-499 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

CS-INS Independent Study *(1-4 credits)*

DATA SCIENCE (DS)

DS-001 Non-Credit Data Science Internship *(0 credits)* Provides students an overview of an organization including its structure, strategies and principal lines of activity as well as providing an opportunity for practical application of the skills developed in students' areas of concentration. Note: see the chapter "Academic Programs" inder Internships: listed as Internship(title)must be at least 9 weeks long. Prerequisites: The EB Core or Foundation Courses, sophomore standing and permission.

DS-110 Intro to Data Science *(3 credits)* This course introduces the student to the emerging field of data science through the presentation of basic math and statistics principles, an introduction to the computer tools and software commonly used to perform the data analytics, and a general overview of the machine learning techniques commonly applied to datasets for knowledge discovery. The students will identify a dataset for a final project that will require them to perform preparation, cleaning, simple visualization and analysis of the data with such tools as Excel and R. Understanding the varied nature of data, their acquisition and preliminary analysis provides the requisite skills to succeed in further study and application of the data science field. Prerequisite: comfort with pre-calculus topics and use of computers. *(N)*

DS-210 Data Acquisition *(3 credits)* Students will understand how to access various data types and sources, from flat file formats to databases to big storage data architecture. Students will perform transformations, cleaning, and merging of datasets in preparation for data mining and analysis. PRE-REQ: CS 110 and DS 110. *(N)*

DS-242 Information Visualization *(3 credits)* This course considers the various aspects of presenting digital information for public consumption visually. Data formats from binary, text, various file types, to relational databases and web sites are covered to understand the framework of information retrieval for use in visualization tools. Visualization and graphical analyses of data are considered in the context of the human visual system for appropriate information presentation. Various open-source and commercial digital tools are considered for development of visualization projects. Prerequisite: AR-102, CS-110, DS-110, IM-110, or IT-110. *(N, CTDH, CTGES)*

DS-352 Machine Learning *(3 credits)* This course considers the use of machine learning (ML) and data mining (DM) algorithms for the data scientist to discover information embedded in datasets from simple tables through complex and big data sets. Topics include ML and DM techniques such as classification, clustering, and predictive and statistical modeling using tools such as R, Matlab, Weka, and others. Simple visualization and data exploration will be covered in support of the DM. Software techniques implemented in the emerging storage and hardware structures are introduced for handling big data. Prerequisite: CS-110, DS-110, and an approved statistics course: MA-205, MA-220, BI-305, PY-260, PY-366, or EB-211. *(N)*

DS-375 Big Data *(3 credits)* This course considers the management and processing of large data sets, structured, semi-structured, and unstructured. The course focuses on modern, big data platforms such as

Hadoop and NoSQL frameworks. Students will gain experience using a variety of programming tools and paradigms for manipulating big data sets on local servers and cloud platforms. Prerequisites: DS 110 Intro to Data Science and CS 370 Database Management Systems *(N)*

DS-420 Data Science Capstone *(1 credits)* This course is a capstone experience for Data Science POE students and must be completed as part of a student's final 30 credits. It represents the summation of a student's Juniata experience and serves as a bridge to their future goals. Students will have the opportunity to both apply their previous data science skills and develop new skills through a data analysis project. Prerequisites: DS-110, CS-110, and one course from the following list: MA-220 or MA-205 or EB-211 or BI-305 or ESS-230 or ESS-309 or PY-361 or SW-215.

DS-480 Data Science Seminar *(1 credits)* Data Science Seminar introduces students to research in data science and allows students time and a network of peers to help plan a research project. DS Seminar, IT/CS Seminar, and IT/CS Research students meet at the same time and can offer mentoring to the class network, and ultimately share the outcomes of their research projects. Must have junior or senior class standing. Prerequisites: DS-110 and MA-205 or MA-220.

DS-485 Data Science Research *(3-5 credits)* Under the direction of their advisor, students will complete an original, independent research project in Data Science. A written report and oral presentation summarizing their research experience and results will be prepared. This course is a requirement for students who are candidates for distinction in Data Science. Instructor permission required.

DS-490 Data Science Internship *(1-9 credits)* Corequisite: DS-495. Requires permission and sophomore, junior, or senior class standing.

DS-495 Internship Seminar *(1-6 credits)* See Internship in the catalog. Corequisite: DS-490. Requires permission and sophomore, junior, or senior class standing.

DS-INS Data Science Independent Study *(1-4 credits)*

ACCOUNTING, BUSINESS, AND ECONOMICS (EB)

EB-001 Non-Credit Business Internship *(0 credits)* Provides students an overview of an organization including its structure, strategies and principal lines of activity as well as providing an opportunity for practical application of the skills developed in students' areas of concentration. Note: see the chapter "Academic Programs" inder Internships: listed as Internship(title)must be at least 9 weeks long. Prerequisites: The EB Core or Foundation Courses, sophomore standing and permission.

EB-100 Introduction to Management *(3 credits)* This course develops an understanding of management principles in the areas of planning, organizing, staffing and control, including but not limited to the aspects of strategy, legal environment, operation/supply chain management. *(S)*

EB-105 International Economic Issues *(3 credits)* Understanding international economics is increasingly important for private and public decision-makers. In a world of growing economic interdependence, the ability of policy makers to provide a stable environment for business is a key issue. Accordingly, this course develops the principle topics of international economics, including trade theory, the balance of payments, the cause and consequences of exchange rate movements, the flow of capital, currency crises and regional trade issues. The applied topics emphasized will be based on the most pressing current issues. *(S, I)*

EB-106 Foundations of Entrepreneurship *(3 credits)* Students will be provided with the tools necessary to ignite their entrepreneurial mindset using tested principles to enable success in the start-up world. In doing so, students will understand how to develop an innovator's mindset so that they will have a practical understanding of the creative process and practice in applying it.

EB-120 Executive Leadership *(1 credits)* Students will study leadership styles and effective leadership practices in various settings, including entrepreneurship, private business, corporations, not-for-profit organizations and social movements. *(S)*

EB-131 Financial Accounting *(3 credits)* Introduces fundamental principles and assumptions of accounting as they relate to transaction analysis and basic financial statements. *(S)*

EB-140 Investing: Your Future *(1 credits)* Saving too little can cost you a secure future. In this course you will learn to make informed judgments about how to save, how much to save, how to invest, what to believe, who to ask for advice, and how to choose among investments. Students with no investing knowledge but who are interested are especially encouraged to take this course. *(S)*

EB-199 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

EB-202 Behavioral Analysis of Organizations *(4 credits)* The broad focus of the course is to examine how individuals come together to form a successful organization. The course is broken into three major sections: people, organizations, and leadership. The course emphasizes student involvement and engages students in a variety of in-class exercises, case analysis role-playing exercises, small group exercises, and an off-campus class experience or two. One or more off-campus experiences are required for the course. Must be at sophomore standing or above. Pre- or Co-Req: FYC-101 or EN-110 or EN-109. *(CW, S, WK-SI)*

EB-203 Introduction to Business Law *(3 credits)* An introduction to the American legal system as it applies to the business community. Emphasis is on basic legal concepts in contracts, real and personal property, agency and employment, and transaction of business through partnerships and corporations. *(S)*

EB-204 Legal Regulation of Business *(3 credits)* Examines the areas in which by statute the legislative branch of government regulates business. Topics include anti-trust law, bankruptcy, consumer protection, securities laws and the uniform commercial code. *(S)*

EB-206A Fashion Marketing, Part 1 *(2 credits)* This Global Engagement course sequence (2-credit predeparture course in fall or spring semester plus a 2-credit short-term study abroad course in winter or summer term) is designed to provide students with a multidisciplinary exploration of fashion production and marketing. This course provides classroom instruction along with practical experiences to explore the cultural and economic impact of the fashion industry. Pre- or corequisite: FYC-101 or EN-110 or EN-109. NOTE: The total fee for the experience is split between the two courses, with the majority of the fee on the fall or spring semester billing and a $250 administrative fee on the winter or summer term billing. *(SW-GE)*

EB-206B Fashion Marketing, Part 2 *(2 credits)* This Global Engagement course sequence (2-credit predeparture course in fall or spring semester plus a 2-credit short-term study abroad course in winter or summer term) is designed to provide students with a multidisciplinary exploration of fashion production and marketing. This course provides classroom instruction along with practical experiences to explore the cultural and economic impact of the fashion industry. Pre- or corequisite: FYC-101 or EN-110 or EN-109. NOTE: The total fee for the experience is split between the two courses, with the majority of the fee on the fall or spring semester billing and a $250 administrative fee on the winter or summer term billing. *(SW-GE)*

EB-207 New Venture Creation *(3 credits)* Students will analyze business start-up successes and failures, develop their own new ideas for new ventures and learn how to determine when an idea represents a viable business opportunity. Students will pursue those opportunities as far as possible toward actual startup of the venture. *(S)*

EB-210 Quantitative Business Analysis *(3 credits)* This course introduces quantitative techniques for solving business problems and works to establish a link between data analysis and business decision-making. The course presents algebra, graphical methods, applied calculus, and descriptive statistics as tools to aid business decision makers. Prerequisites: High school algebra or pre-calculus. *(QM, S)*

EB-211 Business Statistics *(3 credits)* This course covers basic descriptive and inferential statistics, normal curve and z-score computations, and addresses hypothesis testing using Chi-Square, T-Test, ANOVA, and linear regression modeling. Pre- or co-requisite: FYC-101. *(QS, S, WK-FR)*

EB-222 Principles of Macroeconomics *(3 credits)* Macroeconomic conditions affect individuals and businesses in numerous ways: employment opportunities, the purchasing power of wages and salaries, the cost of borrowing money, sales, profits, and competitiveness against foreign businesses. This course develops the theories relevant to understanding the business cycle, inflation, unemployment, deflation, exchange rates and balance of payments problems. It also examines the options and tradeoffs governments face as they seek to provide a stable macroeconomic environment through monetary and fiscal policies. Case studies of the macroeconomic performance and policies of diverse countries provide a comparative orientation. Prerequisites: Sophomore, Junior, or Senior standing *(S)*

EB-223 Principles of Microeconomics *(3 credits)* The optimizing behavior of households and firms serves as the focal point in this study of market-based resource allocation. Supply and demand analysis, spending and saving decisions of households, production and employment decisions of firms, alternative market structures, and environmental economics are among the topics covered. Prerequisite: Sophomore, Junior, or Senior standing. *(S)*

EB-232 Intermediate Accounting I *(4 credits)* A comprehensive study and application of generally accepted accounting principles for asset valuation, income measurement, and financial statement presentation for business organizations. Prerequisites: EB131. *(S)*

EB-233 Intermediate Accounting II *(4 credits)* A continuation of the comprehensive study and application of generally accepted accounting principles for asset valuation, income measurement, and financial statement presentation for business organizations begun in Intermediate Accounting I. Prerequisite: EB232. *(S)*

EB-236 Managerial Accounting *(4 credits)* Emphasizes accounting concepts for the internal use of management in planning and control. Course focuses on spreadsheet applications to analyze management policies. Prerequisite: EB131. *(S, QM, CW)*

EB-299 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

EB-307 New Venture Start-Ups *(3 credits)* Students will develop their new ventures beyond the conceptual and planning stages by establishing actual operations-purchasing, manufacturing, marketing, etc. to generate revenue. They will implement whatever support systems (accounting, human resources, inventory management, etc.) are needed. Prerequisite: EB-207. *(S)*

EB-308 Business Studies Abroad I *(1 credits)* Business Studies Abroad is a two-course short-term study abroad program that will provide students with an introduction to how business is conducted in another country, coupled with an in-depth examination of life in that country. This Global Engagement course sequence includes a 1-credit predeparture course in fall or spring semester plus a 2-credit short-term study abroad course in winter or summer term during which we will travel to the country being studied in that particular experience. The total fee for the program is split between the two courses. Pre- or corequisite: FYC-101. NOTE: The total fee for the experience is split between the two courses, with the majority of the fee on the fall or spring semester billing and a $250 administrative fee on the winter or summer term billing. *(SW-GE)*

EB-309 Business Studies Abroad II *(2 credits)* Business Studies Abroad is a two-course short-term study abroad program that will provide students with an introduction to how business is conducted in another country, coupled with an in-depth examination of life in that country. This Global Engagement course sequence includes a 1-credit predeparture course in fall or spring semester plus a 2-credit short-term study abroad course in winter or summer term during which we will travel to the country being studied in that particular experience. The total fee for the program is split between the two courses. Pre- or corequisite: EB-308. NOTE: The total fee for the experience is split between the two courses, with the majority of the fee on the fall or spring semester billing and a $250 administrative fee on the winter or summer term billing. *(SW-GE)*

EB-320 Intermediate Microeconomics *(3 credits)* Microeconomics analyzes the behavior of individual economic units such as consumers and firms. Intermediate microeconomics builds on the topics covered in principles of microeconomics and principles of macroeconomics. While those courses were more intuitive, this course explores microeconomics with a deeper degree of rigor using mathematical models to predict economic behavior. Prerequisites include EB223 and EB222. *(S)*

EB-321 Intermediate Macroeconomics *(3 credits)* Intermediate Macroeconomics builds upon the concepts developed in principles of microeconomics and principles of macroeconomics. Macroeconomics in general tries to understand the aggregate behavior of economies rather than that of individual economic actors, and in this course we will study and use models that help explain what has happened in the past and predict what will occur. Prerequisites: EB222 and EB223. *(S)*

EB-325 Health Economics *(3 credits)* Health Economics applies economic analysis to better understand the functioning of the healthcare industry. Topics will include demand for healthcare and health insurance, information problems, healthcare costs, comparative healthcare systems and healthcare policy. Prerequisite: EB223 Principles of Microeconomics *(S)*

EB-332 Corporate Taxation *(3 credits)* This course is intended for undergraduates who desire to learn how the IRS code applies to corporations. Prerequisites: Junior or Senior standing. *(S)*

EB-333 Governmental and Nonprofit Accounting *(3 credits)* Governmental and Nonprofit Accounting is designed to provide an overview of fundamental concepts and practices used in accounting for activities of governmental and non-business organizations. After successfully completing the course, students will be familiar with recording financial transactions, preparing financial reports, budgeting, auditing, and analyzing the results for federal, state and local governments, colleges and universities, healthcare organizations and other nonprofits. Prerequisite: EB 233 Intermediate Accounting II. *(S)*

EB-335 Auditing *(3 credits)* Emphasizes current auditing principles and the objectives of independent accounting firms. Particular attention is placed on auditing procedures and the ethical and legal responsibilities of the auditor. Prerequisite: EB233. *(S)*

EB-336 Federal Taxation: Individuals *(3 credits)* Examines the federal income tax structure and its relationship to individuals and sole proprietorships. Emphasis is placed on the preparation of the individual income tax return. Prerequisite: EB-131. *(S)*

EB-337 Cost Accounting *(3 credits)* An analysis of the use of cost accounting systems to accumulate and allocate manufacturing costs. In order to support inventory valuation and emphasis is on solving real business problems. Prerequisite: EB236 and Junior or Senior standing. *(S)*

EB-340 Investing Analysis *(1 credits)* The course is meant to train portfolio managers. Students will maintain an online trading account and learn about fiduciary responsibility. They will assist portfolio managers by analyzing investments and with other tasks. This course prepares students to become portfolio managers. Prerequisites: EB140 *(S)*

EB-341 Production and Operations Management *(3 credits)* Examines the necessary things business firms must do to efficiently convert inputs to outputs. The course is about equally divided between qualitative operations management theory and quantitative tools that have been developed to solve typically occurring problems in production/ operations. Prerequisite: EB-100. *(S)*

EB-342 Management Information Systems *(3 credits)* The study of how computer technology is used to gather, store, organize, retrieve, and transmit information within and between organizations. Topics include the organizational and technical foundations of information systems, the contemporary tools and techniques for building systems, and the management of information system resources. Emphasizes current computer platform applications and techniques used in business. Prerequisites: EB201 (EB201 can be taken concurrently) and Junior or Senior standing. *(S)*

EB-351 Marketing Management *(3 credits)* Analyzes consumer behavior leading to the selection of products as well as pricing, promotion, and distribution strategies. Research projects help students apply concepts to the complexities of decision-making in marketing. Prerequisite: EB-100 or EB-101. *(S)*

EB-354 Sport Marketing *(3 credits)* This course provides an in-depth examination of marketing principles as applied to the sports industry. Students explore sport consumers, sport advertisement, sport event budget/expenditure, sport products, branding, sponsorship, and fan engagement strategies. Emphasis is placed on data-driven decision-making and experiential learning through the development of a comprehensive sport marketing plan. Prerequisite: EB-100.

EB-355 Marketing Strategies *(3 credits)* Examines in depth the development and implementation of marketing strategies, for businesses and not-for-profits, for domestic and international businesses. Prerequisite: EB351. *(S)*

EB-356 Fashion Marketing Management *(4 credits)* This course covers entry-level fashion design and marketing concepts and hands-on managerial skills in the fashion industry. Students will explore the marketing practices of fashion brands at the local, national and global level. Pre- or co-requisite: EB-100.

EB-358 Marketing Research and Analytics *(3 credits)* This course covers the three core pillars of analytics: Descriptive Analytics, Predictive Analytics, and Prescriptive Analytics, which helps students understand, conduct, interpret and evaluate basic statistics that are widely used in marketing research and in the process being able to critique research reports. Students will be trained to utilize computer software in conducting statistical analyses. Prerequisite: EB-351 *(S)*

EB-359 Advertising & Promo Mgmt *(3 credits)* This promotion management course is designed to give students an in-depth examination of integrated marketing communication and how it relates to handling promoting an organization, a campaign, a product and (or) service, or any other specific cause. The course will look at various promotional techniques such as public relations, various sources of advertising and marketing, and the utilization of direct sales approaches, with the focus on the marketing mix to the various aspects of communications that take place between the firm and its customers. At the same time, this course lends itself to studying both applied and theoretical issues to give students both a real-world view of advertising and promotions, as well as frameworks for understanding such real-world decisions. The course will offer an insight into strategies that can be developed and implemented to manage promotional activities. Pre-Req: EB-351 *(S)*

EB-361 Financial Management I *(3 credits)* The management of business assets and liabilities and the concurrent creation of sources and the use of funds. Special attention is given to financial statement analysis and decisions involving working capital management. Prerequisite: EB-131. *(S)*

EB-362 Financial Management II *(3 credits)* Special attention to long-term external sources of funds. Capital budgeting under uncertainty, security market processes, strategies for debt/ equity mix, and portfolio theory are covered. Prerequisite: Junior or Senior standing. *(QM, S)*

EB-363 Health Care Financial Management *(3 credits)* Emphasizes health care decision making using financial information. The course focuses on unique financial characteristics in the health care industry, such as the mix of government and non-government providers and payers, complex payment systems, and the interactions between providers, insurance companies and consumers. Prerequisite: EB131. *(S)*

EB-371 Human Resource Management *(3 credits)* The early part of the course takes an in-depth look at the fundamental nature of the employer- employee relationship. The fundamental framework is then used to evaluate traditional aspects of Human Resource Management practice: Selection, training, recruitment, performance appraisals, and compensation. Class time involves some lecture, in-class exercises, guest speakers from industry, and case analyses. Prerequisites: EB202 or PACS202. *(S)*

EB-375 21st Century Leadership *(3 credits)* This course examines the challenges of providing leadership in the information age of global and cultural contexts. Leadership as manifested in today's workplace provides both opportunity and a great responsibility. The role and function of leaders look very different today than years ago. Change is the norm. Leaders must understand today's challenges and be able to function effectively given a borderless, multicultural, virtual, and diverse group of followers. No prerequisites. *(S, CTGES)*

EB-377 Sports Management *(3 credits)* Sports Management will explore the many business and socio-cultural aspects of the business of sports. Sport plays an increasingly significant role in our world as professional and collegiate sports attract more and more of our entertainment spending and sports personalities become more central and idolized in society. This exploration of the sports industry will connect well with other areas of business study: organizational behavior, strategy, human resource management, and marketing. Prerequisite: EB-100 and sophomore standing or above. *(S, CS)*

EB-379 Bargaining and Conflict Management *(3 credits)* Bargaining and Conflict Management provides students with an opportunity to learn about bargaining and conflict-management theory. Students will have the opportunity to explore and apply this theory, and to examine aspects of bargaining style, in a variety of bargaining simulations. Prerequisite: EB-202. *(S, CS)*

EB-381 International Political Economy *(3 credits)* The pursuit of wealth and power, profit and privilege, corporate growth and national security occurs in a global context. This course examines the business agendas and political priorities that find expression in the policy agreements and institutional agreements of the contemporary global economy. The course is conducted as a seminar and requires a substantial research project. Prerequisite: EB105. *(S, I)*

EB-382 Sport Analytics *(3 credits)* Sport Analytics is an exploration of the concepts essential to effectively applying fundamental statistical concepts to sports data analysis. Utilizing programing tools (like R or Python) for sports data processing, students will interpret and evaluate advanced metrics across various sports, engage in original analysis and learn to effectively communicate analytical findings to both technical and non-technical audiences. Prerequisite: EB-377

EB-383 Sport Finance *(3 credits)* Sport Finance focuses on those financial concepts unique to the Sports Industry. Students will learn basic accounting and finance principles, revenue streams, cost control and budgeting, Capital investments, team and athlete valuation models, and industry economic impact analysis. Prerequisite: EB-377

EB-384 Athletics Event Management *(3 credits)* This comprehensive course explores the principles and practices of planning, organizing, and executing successful athletic events. Students will develop skills in event conceptualization, budgeting, marketing, risk management, and operations while creating practical event management plans applicable to various sports settings and scales. Prerequisite: EB-377

EB-385 College Athletics & Administration *(3 credits)* This course explores the complex landscape of collegiate athletics administration. Students will examine governance structures, financial management, compliance regulations, student-athlete well-being, and leadership principles. Through case studies and projects, students will develop strategic thinking skills necessary for effective management in intercollegiate athletics settings. Must have sophomore standing.

EB-399 Special Topics *(1-4 credits)* Offers special studies to meet the interest and demands of Students. Note: Students may take each ST: course for credit.

EB-407 Entrepreneurship *(3 credits)* Examines the application of administrative and functional fields to small business situations. Special attention is given to the problems typical of the small business. Projects and local businesses may be used as cases. Prerequisite: EB-307. *(S)*

EB-440 Portfolio Management I *(1 credits)* Students manage the Juniata College student portfolio, making all investment decisions about policy, trading, and long term goals. They present a progress report to the public, benchmark and account for the investments, and defend their choices. Prerequisites: EB-340 or EB-362. *(S)*

EB-441 Portfolio Management II *(1 credits)* Students manage the Juniata College student portfolio, making all investment decisions about policy, trading, and long term goals. They present a progress report to the public, benchmark and account for the investments, and defend their choices. Prerequisite: EB-440. *(S)*

EB-442 Portfolio Management III *(1 credits)* Students manage the Juniata College student portfolio, making all investment decisions about policy, trading, and long term goals. They present a progress report to the public, benchmark and account for the investments, and defend their choices. Prerequisite: EB-441. *(S)*

EB-443 Portfolio Management IV *(1 credits)* Students manage the Juniata College student portfolio, making all investment decisions about policy, trading, and long term goals. They present a progress report to the public, benchmark and account for the investments, and defend their choices. Prerequisite: EB-442. *(S)*

EB-463 Financial Markets & Institutions *(3 credits)* The role of credit and capital and the function of dollar and Euro bonds in today's internationalized financial markets are investigated empirically and assessed analytically in this course. Numerous economic theories relevant to understanding the behavior of various asset markets are developed, including portfolio and asset models of exchange rate determination and currency speculation. The costs and benefits of alternative government policies such as financial regulation and capital and foreign exchange controls are weighed. Prerequisite: EB222. *(S, I)*

EB-465 Financial Theory and Analysis *(3 credits)* Financial Theory & Analysis will be a finance elective aimed at juniors and seniors. EB465's purpose is to develop an understanding of traditional modern portfolio theory, recent challenges to this orthodoxy, empirical knowledge of asset performance and how to apply this knowledge to specific contexts, i.e. creating an appropriate portfolio. Prerequisites: EB211 and EB362. MA220 may be used as a replacement for EB211 only. *(S)*

EB-480 Senior Seminar *(3 credits)* A capstone course for POE in Business. Through the use of readings, case studies and simulations, students in the course will formulate corporate strategy and implement it in a competitive environment. How firms may gain and sustain competitive advantage with the formulated strategy will be examined. In addition, students will also be trained to craft business reports on corporate strategies. The evaluation of performance will mainly depend on the content and the quality of the business reports. *(S)*

EB-490 Business Internship *(1-9 credits)* Develops students' skills, through practical experiences or field projects which require proposals for problem analysis and solution. The experiences and projects are provided by local businesses or other organizations and use technical and decision skills developed in students' areas of concentration. Corequisite: EB-495 *(S)*

EB-495 Business Internship Seminar *(1-6 credits)* Requires students to reflect on the experience and/or pursue relevant research. Corequisite: EB-490. *(S)*

EB-499 Special Topics *(1-4 credits)* This course allows departments to offer topics not normally taught to be offered. Prerequisites and title vary by section.

EB-INS Independent Study *(1-4 credits)*

EB-TUT Business Teaching Assistant *(1-4 credits) (S)*

EDUCATION (ED)

ED-001 Non-Credit Education Internship *(0 credits)* Provides students an overview of an organization as well as providing an opportunity for practical application of the skill developed in students' area of concentration. Note: see the chapter"Special Programs"under Internships;listed as internship: (Title); must be 6 weeks long. Prerequisite: Permission.

ED-110 Foundations of Education *(3 credits)* Discusses the historical and contemporary bases of major political, economic, legal, sociological, and psychological issues affecting public school systems. Students review current issues in education and write a personal philosophy statement. Pre-or Co-Requisite: FYC-101. *(S, WK-SI)*

ED-111 Foundations of Education Field Experience *(1 credits)* Provides a classroom experience for students who are interested in education to explore teaching as a career and observe the application of multiple philosophies, theories, and teaching strategies. *(S)*

ED-120 Child Development *(3 credits)* Provides an in-depth introduction to child development, cognition, behavior, and learning from conception through middle childhood. Using an ecological approach, students examine characteristics of physical, social, emotional, cognitive, and language development at each age; identify typical and atypical development; compare and contrast major theories of development and learning; and explore diverse issues in child development and early education, including gender, culture, language, ability, family, social policy, educational setting, and the influence of heredity and environment. Assignments include readings, research, presentations, and direct observation of young children. *(S)*

ED-130 Adolescent Development *(3 credits)* Examines human physical, cognitive, and social-emotional development from preadolescence through emerging adulthood. Topics include: identity, sexuality, and gender issues; emotional and behavioral challenges of adolescence, the impact of culture, language, and disability on adolescents, and the role of family, schools, and peers on development. Enrollment priority in this course is given to Education POEs. *(S)*

ED-199 Special Topics *(1-4 credits)* Special topics provides students, particularly those not seeking certification, with experience organizing and communicating knowledge in their fields of study. This may be accomplished in public schools or other areas of social/community work, e.g., community health programs or family planning agencies. Note: titles may vary each semester; students may take each course for credit.

ED-240 Introduction to Students With Exceptionalities *(3 credits)* Introduces the culture of exceptionalities within the public special education system. Historical, philosophical, educational, and legal perspectives will be presented. Students will learn the categories of exceptionalities, general characteristics of individuals with exceptionalities, eligibility criteria, and the referral process for special education services. Professional and community resources, inclusion and other current issues will be discussed. Prerequisite: FYC-101 *(S, SW-US)*

ED-260 Families, Schools, and Communities *(3 credits)* This course provides an in-depth view of the relationship between families, schools, and communities. While exploring their own beliefs and values, students examine family diversity and the impact of socioeconomic status, culture, language, lifestyle, and ethnicity on child development. Discussion will focus on building effective partnerships with families, schools, and community members through development of strategies that establish culturally sensitive and nurturing relationships. In addition, best practices related to trauma informed instruction will be integrated throughout course content. Prerequisite: ED-240.

ED-299 Special Topics *(1-4 credits)* Allows departments to offer courses not normally taught.

ED-304 Teaching for Social Justice *(3 credits)* Teaching for social justice will focus on competencies, current issues, and best teaching practices used in early childhood social studies curriculum. Emphasis will be placed on social justice and an interdisciplinary approach to learning for PreK-4 learners. Discussion will focus on marginalized groups to raise awareness for diverse perspectives. Students will engage in building critical cultural awareness for social change in early childhood classrooms. Prerequisite: ED-240.

ED-309 Intro to Autism Spectrum Disorders *(3 credits)* This course examines the etiology, characteristics, and issues related to individuals with Autism Spectrum Disorders. Topics include diagnosis, evidence-based teaching strategies, and techniques to address strengths and areas of development over the life span.

ED-312 Language and the Brain *(3 credits)* Provides an overview of research-based models of language acquisition, both typical and atypical in children. Topics include theories of language acquisition, neurological bases of speech and language, cognitive, perceptual and motor bases of early language and speech,social and communicative bases of early language and speech, language learning and teaching, relationship of language to literacy acquisition, language differences in diverse learners. Prerequisite: ED-240 or PY-101. *(S)*

ED-313 Language and Brain Lab *(1 credits)* Extends and enhances learning in ED312 Language and the Developing Brain. Through participation in classroom settings, students will be able to observe and interact with young children in Kindergarten through Grade 2 and public education professionals, apply knowledge and understanding of language development and theory, analyze and assess language development using formal and informal assessment tools, monitor student performance, and adapt instruction and interactions to meet individual needs, scaffold learning, and guide behavior. Prerequisite: ED-120. Corequisite: ED-312. *(S)*

ED-314 English Language Learners *(3 credits)* Focuses on the historical, legal, and cultural issues pertaining to meeting the educational needs of English language learners. Students are be introduced to research-based best practices in instruction and assessment strategies for working with English language learners in the general education classroom setting. Prerequisite: ED-120 or ED-130. *(S)*

ED-341 Adapt. for Students w/Except. Needs Exceptionalities *(3 credits)* Students learn to develop and manage effective inclusive learning environments for students with disabilities at the secondary level. Content focuses on the knowledge and skills necessary to create an instructional environment that communicates challenging expectations while utilizing and modifying research based instructional strategies/resources/technologies. Students will learn the critical components of effective collaboration with parents and professionals. Prerequisite: ED-240. *(S, CW)*

ED-341F Adaptations for Spec Needs Field Exp *(1 credits)* For students pursuing secondary education, this field experience in an inclusive classroom is a requirement. Prerequisite: ED-240. Corequisite: ED-341.

ED-342 Assessment Learners *(3 credits)* This course provide in depth knowledge of and skills in assessment as it pertains to students with disabilities, the special education system, and Pre-K through grade 4 education. Historical perspectives as they relate to contemporary assessment practices are highlighted. Focus is placed on selection and administration of assessment tools, scoring, and interpretation of data for early intervention and special education eligibility. Students will be required to write an Individual Family Service Plan (IFSP) and an Individual Education Plan (IEP). Prerequisites: ED110, ED111, ED240, and ED-120 or ED-130. *(S)*

ED-343 Differentiated Instruction *(3 credits)* The purpose of this course is to develop skills for the development and management of effective inclusive learning environments at the Pre-K through Grade 4 level. Content will focus on the strategies necessary to create an instructional and social environment that communicates challenging expectations to students while utilizing and modifying research based instructional strategies/resources/technologies to address individual learning needs. Focus is placed on strategies for establishing positive relationships with students, parents, and professionals. Prerequisites: Take ED-120 and ED-240. *(S)*

ED-350 Science Methods *(3 credits)* This course is for education students seeking certification in Early Childhood Education program and is intended to address the learning needs and best practices for teaching math, science, and technology to PreK-4th grade students in the 21st-century classroom. The primary focus

of this course will be in the sciences but will include the integration of math, technology, and engineering. We explore science and the process of teaching science to elementary students using students' natural curiosity. The main vehicle of exploration will be an inquiry approach as we discover STEM learning the way we want our students to experience it. Prerequisites: ED-110, ED-111, either ED-120 or ED-130, ED-240, and ED-343. *(S)*

ED-370 Practicum in EC Education *(1-3 credits)* A field experience designed for students seeking early childhood certification. This course is especially desirable for students who have done or will do practicums at the elementary level. Requires sophomore standing and instructor permission. *(S)*

ED-392 Field Experience in Secondary Education *(1-14 credits)* A field experience in which students apply theory they have learned in a middle or high school setting. This practicum is not the normal student teaching that is required for certification. Available by permission only. May be repeated up to a maximum of 9 credits. *(S)*

ED-395 Field Experience in Early Childhood Education *(1-3 credits)* A field experience designed for students seeking Pre K-4 certification. This course is especially desirable for students who have done or will do field experiences at the elementary level. Prerequisite: ED-120. Course may be repeated up to a total of 3 credits. Available by permission only. *(S)*

ED-396 Practicum in Special Education *(1-3 credits)* A field experience primarily designed for students seeking special education certification or interest in education studies. This course provides students with opportunities to gain more experience working with students with special needs in a variety ofeducational settings. Prerequisites: ED341 Available by permission only. *(S)*

ED-397 Artificial Intelligence in Educ Research *(1 credits)* This research-intensive lab engages students in designing, implementing, and evaluating artificial intelligence (AI) applications in educational contexts, with emphasis on literacy and language development. Students conduct literature reviews, analyze data, and contribute to collaborative research projects. Requires instructor permission.

ED-398 Methods for Foreign Language Education *(4 credits)* This course is for students interested in teaching foreign languages or English as a foreign language or second language (ESL). This course provides a thorough introduction to contemporary theories and methods of language pedagogy. Students seeking K-12 certification in foreign languages may take this course instead of ED420 after completing study abroad. It may also be taken by those students who have an interest in teaching English abroad. International students who are here for a semester or a year should also consider taking this course. Prerequisites: ED110 and ED111 and ED130 and ED240 and ED341. *(S, CS)*

ED-399 Special Topics *(1-4 credits)* Allows the department to offer courses not normally taught. Note: Titles vary each semester; students may take each special topics course for credit.

ED-401 Junior Field Experience *(1 credits)* ED-401 is a comprehensive field experience. Students complete at least 4 hours/week of field experience, Prerequisites: ED-120 and ED-240. Corequisite: ED-343. *(S)*

ED-403 Math Methods: PreK-6 *(3 credits)* Math is all around us and an early start in conceptual mathematics will promote understanding and problem solving for young learners. This course is designed to introduce appropriate teaching strategies that highlight both NAEYC and NCTM standards for the mathematical development of the child (Prek-6). Prerequisite: ED-120. *(S)*

ED-411 Reading Difficulties *(3 credits)* This course provides an in-depth review of the literature concerning language-based learning disabilities. The course will address assessment and intervention strategies for struggling readers and writers in early and middle childhood. Formative, summative, benchmark, and diagnostic measures will be addressed as they relate to classroom intervention. Research-based intervention strategies will be analyzed within the perspective of meeting the needs of learners with diverse learning profiles and etiologies for their language-based academic difficulties. Topics included are early identification, research-based assessment and intervention, authentic assessment strategies for diverse learners and ELL's, technology to support instruction. Prerequisite: ED-120 or ED-130. *(S)*

ED-412 Reading Difficulties Lab *(1 credits)* This formal experience requires pre-service teachers to participate in an after school reading clinic for children in grades K through five who are identified as at-risk or struggling readers. Formal and informal assessment tools will be applied and used in decision making for research-based interventions. Communication with in-service teacher mentors and parents will be emphasized. Pre and post measures of achievement will be applied. A formal case report will be completed. Prerequisites: ED-212 and either ED-120 or ED-130. Corequisite: ED-411. *(S)*

ED-413 Rural Outreach & Reading *(1 credits)* The Rural Outreach and Reading course offers an opportunity for education students to provide data driven reading interventions for primary school children who are struggling in reading and related language skills. Juniata students provide research-based interventions in small group and one-to-one settings two afternoons each week. Juniata Students complete readings related to the intervention, submit reflections, and provide reports of assessment and response to intervention.

ED-419 Pre-Student Teaching Field Experience *(1 credits)* Secondary pre-student-teaching practicum is a required 80-hour minimum practicum in the linked placement where you will be going for student teaching. Students should plan to spend four consecutive hours in their placement each week.Reliable transportation is REQUIRED. Co-Requisite: ED-420. *(S)*

ED-420 General Secondary Methods *(3 credits)* General Secondary Methods & Ethics in Education: This teacher education course is an overview of general methods for teaching secondary students. It also includes Disciplinary Literacy to help students meet the PA Core Standards. It will also address ethics in education and force students to rethink and challenge the current educational systems. Pre- or co-requisite: FYC-101. Corequisite: ED-419. *(S, SW-ER)*

ED-423 Secondary Education Field Trip *(1 credits)* Join an interdisciplinary course that will design and execute a field trip for local secondary students. This is a practical application course that will highlight the importance of field trips and provide an opportunity for designing and executing a successful field trip. *(S)*

ED-430 Language and Literacy *(3 credits)* Three themes are woven throughout the course: helping students develop as strategic readers and writers; research-based best practices in teaching; and managing the classroom and curriculum for literacy instruction. The course will begin with a review of the reading and writing process and the principles of effective teaching of reading, based on the IRA/NCTE Standards for the English Language Arts. Emphasis is placed on meeting the individual learning needs of all the children and on application of the PA Academic Standards for Reading, Writing, Speaking, and Listening standards. Pre-Requisite: ED-312. *(S, CW)*

ED-433 Pre-Student Teaching Seminar *(3 credits)* Students complete two half-day practicum visits each week in their upcoming spring semester student teaching placements and meet for a one-hour seminar each week to discuss current issues. Assignments include but are not limited to a weekly reflection journal,

orientation to your school packet, observation reports, attendance, and participation. Prerequisites: ED-310 (optional). Corequisites: ED-430. *(S)*

ED-440 High Incidence Disabilities *(3 credits)* This course focuses on academic instruction for students with learning disabilities,attention deficit hyperactivity disorder, specific language impairment and mild intellectual disablilities. Topics include systematic teaching, co-teaching, language arts and mathematics instruction, content area instruction and strategy instruction. Prerequisites: ED240. *(S)*

ED-441 Low Incidence Disabilities *(3 credits)* Examines research-based practices for instruction and behavior management for students with low incidence disabilities, specifically severe cognitive impairments, low vision and blindness, autism, spectrum disorder, physical or health disabilities, and traumatic brain injury. Prerequisite: ED-240. *(S)*

ED-441F Low Incidence Disabilities Field Exper *(1 credits)* Students complete a practicum in a low incidence classroom setting allowing them to apply concepts and techniques discussed in class. Students complete a series of assignments in the practicum setting. Prerequisite: ED-240; Corequisite: ED-441.

ED-442 Social,Emotional,Behavior *(3 credits)* This course focuses on specific instructional and behavioral research based strategies for students with social, emotional, and behavioral disabilities. Emphasis is placed on school-wide behavior and classroom management systems designed to prevent inappropriate behaviors and promote appropriate and desirable behaviors. Students will learn empirical strategies and procedures for making the general curriculum accessible to students and the role of general and special education teachers in effectively addressing student needs. A major component of this course is the importance of promoting self-determination to facilitate independent learners. Prerequisites: ED240 and ED343. *(S)*

ED-450 Student Teaching *(14 credits)* Student teaching is the capstone experience for students preparing for certification to teach in their content area(s). Students synthesize and apply knowledge of developmental theory, content, and teaching methodology as they design, implement, and evaluate learning experiences in an intensive internship in the classroom. Co-requisite: ED-451. NOTE: Must have completed all clearances and requirements and have access to reliable transportation. Secondary level student teaching is in the fall semester; PreK-4th grade level and language education student teaching are in the spring semester. *(S, SW-LE)*

ED-451 Student Teaching Seminar *(1 credits)* In conjunction with student teaching, students attend weekly seminars that are led by the college supervisors. These meetings focus on professional topics and allow students to reflect upon and share their student teaching experience. In addition, students develop interviewing techniques, become familiar with employment seeking strategies, and develop a portfolio that includes but is not limited to a resume, a philosophy of education statement, lesson plans, and documentation of professional experiences. Corequisite: ED450. *(S)*

ED-452 Dual Certification Student Teaching *(6 credits)* The purpose of this course is to provide an additional student teaching experience for individuals who are seeking certification in more than one certification area. In order to enroll the student must have successfully completed all requirements including student teaching in another certification area or who hold Pennsylvania certification in another area. Prerequisite: ED450. Note: Students must enroll in summer school and pay for 6 credits. *(S)*

ED-494 Education Internship *(1-9 credits) (S)*

ED-495 Internship Seminar *(1-6 credits) (S)*

ED-499 Special Topics *(1-4 credits)* Allows the department to offer subjects not normally taught. Prerequisites vary by title.

ED-INS Independent Study *(1-8 credits)* See catalog.

ED-TUT Education Teaching Assistant *(1-4 credits)* Teaching Assistant

ENGLISH (EN)

EN-001 Non-Credit English Internship *(0 credits)* An opportunity to gain transcript recognition for summer employment in the communications field. Employment should be 10 weeks long. Arrangement must be made with Internship Director in advance of employment. Note: See the chapter on "Special Programs" under Internships; listed as Internship: (title). Prerequisite: permission and EN110.

EN-120 Forms of Literature *(3 credits)* An introduction to the study of literary forms, including poetry, drama, short story, novel, novella, and essay. Students will read texts from a wide variety of genres and historical periods, to examine how litereay forms developed and gain/lost popularity over time. Students will learn the vocabulary and technique of literary analysis. *(H)*

EN-122 Interpreting Pop Literature *(4 credits)* Utilizing Harry Potter, The Hunger Games, World War Z, and other popular works of fiction for class, this introductory course will engage students in the fundamental terms and approaches needed to analyze, appreciate and discuss works of fiction at the college level. Students will study introductory elements of literary theory, emphasizing using various social and theoretical perspectives, as a means of learning how to identify cultural and literary meaning within texts. *(H)*

EN-145 Peer Mentoring *(1 credits)* This course provides students with theoretical knowledge and practical skills to become effective peer mentors in a variety of situations such as tutoring writing and speech. Students learn how peer mentors enhance mentees' academic performance, social integration, sense of belonging, and overall wellbeing and how mentors benefit from experience, leadership, and communication skills developed in mentoring. Prerequisite: FYC-101. (Formerly titled: Peer Tutor Training) *(H)*

EN-147 Tutoring Writing & Speech *(1 credits)* This course provides students with theoretical knowledge and practical skills to become effective tutors for writing and speech. Students learn how tutors foster the critical "Habits of Mind" that help writers develop their own composing processes and knowledge of conventions by tutoring alongside the practices, concepts, and techniques. Prerequisite: EN-145. *(SW-LE)*

EN-162 Women and Literature *(4 credits)* Hostility directed at women's reading and writing often serves as an indicator of a society's anxiety about the social impact of women's artistic and intellectual development. To read is to expand your knowledge of the world and your place in it. To write is to assert that your ideas, opinions, and voice are worthy of attention. This course presents selections from literature by women beginning with 18th century works before moving into contemporary writing. We will pay special attention to the historical and cultural contexts of our readings. Prerequisite: FYC-101 or EN-110 or EN-109. *(H, WK-HT)*

EN-170 World Literatures *(3 credits)* Studies works of African, Asian, Latin American, South American, Caribbean, and Native American literature. Discussions focus on ways literature reveals cultural perspectives and philosophies. Pre- or corequisite: FYC-101. *(H, I, SW-GE)*

EN-199 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topics. Prerequisites vary by title.

EN-200 History of the Language *(3 credits)* Like other languages, English is not monolithic, and it is always on the move. This course examines how English functions now, both in its Standard form and in many of its varieties around the world; how its sounds and structures have changed from its Proto-Indo-European beginnings; and what major factors have influenced those changes. Prerequisites: FYC101, EN110, or EN109. *(H, I)*

EN-203 Class/Status/Identity in US Literature *(4 credits)* This class will focus on representations of social and economic class in U.S. literature. These texts illustrate how social class can define identity and shape perceptions of the American Dream. The class will collect and distribute oral histories about work experiences in collaboration with the local Huntingdon community members. Prerequisite or corequsite: FYC-101 or EN-110 or EN-109. *(SW-LE)*

EN-204 English Colloquium *(1 credits)* The English Colloquium prepares students for academic expectations in the English department and introduces them to professional opportunities within the discipline. This colloquium is intended for students with English, Secondary Education/English or Professional Writing POEs, individualized POEs with foundation in literature or writing, or students with secondary emphases in English. Pre-requisites: sophomore standing, one EN course beyond EN110, or instructor's permission. *(H)*

EN-207 Heaven or Hell on Earth *(4 credits)* In this course we will examine the ways in which specific novels, short stories and films explore various perspectives on nightmarish or ideal societies through alternative political and social ideologies. The class will introduce various literary theories (including Marxism, approaches to feminism and New Historicism) as well as the genre and history of utopian and dystopian literature. V for Vendetta, Sir Thomas More's Utopia, Plato's Atlantis writings, Children of Men and other works will be covered during the semester. Prerequisites: EN110 or EN109. *(H)*

EN-208 Explorations in Creative Writing *(4 credits)* In this course, we'll explore the three primary creative writing genres: fiction, nonfiction, and poetry. Through assigned texts, we'll establish a common vocabulary of concepts for discussing form, voice, point of view, structure, and other important elements of craft. You'll then put those concepts into practice by writing in each genre. Every student will be required to submit at least one poem, essay, or work of fiction to be read and discussed during in-class workshops. Prerequisite: FYC-101. *(WK-CE)*

EN-211 Pennsylvania Literature *(4 credits)* Pennsylvania is a rich and storied landscape featuring a large rural area bookended by two historic cities, all serving as the backdrop for this course. Using literature and film, as well as articles, musical selections, and local engagement activities, this course will examine stories portraying various cultures, lifestyles, and people in Pennsylvania. This course will also consider how many of the different communities and peoples that make up the Keystone State have been represented historically and in fiction. Students will also explore some of the complex social, political, and economic contexts that have shaped the state's history as well as the lived experiences of its people. Pre-Req: FYC-101 or EN-110 or EN-109. *(H, SW-US)*

EN-212 Sports Literature *(3 credits)* Students will consider ways in which sports literature written over the last eighty years reveals the developing and shifting American ideologies concerning subjects such as race, gender, sexuality, and justice, over that same time period. Students will also develop an understanding of the genres and purposes in various forms of sports literature, including newspaper articles, magazine feature articles, short stories, and novels. Prerequisite: EN110 or EN109. *(H)*

EN-213 Zombie Nation *(4 credits)* Students will explore media that reflect our cultural fixation with zombies. Through analysis and discussion, students will explore the intersections between fictional zombies and actual cultural practices that reflect the mindlessness of a zombie culture. Students will explore the ethical implications of the creation and destruction of zombies. Prerequisite: FYC-101 or EN-110 or EN-109. *(CA, H, SW-ER)*

EN-215 Boys Will Be Boys *(3 credits)* This course explores the experiences of men and boys as represented through works of fiction and analyzed via cultural, economic and social contexts. The course considers "maleness" as a social construct and how perceptions within American society influence men's actions and the ways in which they perceive themselves, other men, women, and social situations. *(H)*

EN-217 Disability in Fiction *(4 credits)* This course considers how various texts portray individuals with disabilities. Via short stories, novels, theoretical articles, films, and memoirs we will explore ways that stereotypical portrayals can stigmatize and discriminate against people with disabilities. The class will also examine narratives and voices that question the definition of 'normal' as well as reinterpret traditional representations of disability. We will consider key concepts such as ableism, justice, access, and the medical and social models of disability. The course will also introduce some of the ways that disability intersects with other aspects of identity such as gender, sexuality, race, and class. Prerequisite: FYC-101 or EN-110 or EN-109. *(H, SW-ER)*

EN-236 Dirty Books *(3 credits)* In this course, students will explore the ethical questions surrounding the practices of challenging, censoring, and banning books from American public schools and libraries based on objections to various texts' inclusion of sex, homosexuality, vulgarity, violence, and religion/atheism. Prerequisite: FYC-101 or EN-110 or EN-109. *(H, CW, SW-ER)*

EN-237 Constructing Identities *(4 credits)* Applying various cultural and theoretical perspectives, students will view and read works from Quentin Tarantino, Christopher Nolan, Kurt Vonnegut, Salman Rushdie, David Foster Wallace and others to examine ways that consumerism, technology, social institutions and other facets of modern culture and society shape identities and influence the human condition. Prerequisite: FYC-101 or EN-110 or EN-109. *(CA)*

EN-238 Unnatural Acts *(3 credits)* From the Puritans to tree-huggers, America has been divided between those who see Nature as moral and liberating, and those who see society as the taming of savage, godless wilderness. This course will examine that tension in writers from Hawthorne and Melville to Faulkner. *(H)*

EN-239 Bloody Murder *(4 credits)* The United States has always been a violent nation, and American writers have used that violence to explore questions of justice, truth, and human nature. This course will examine the portrayal of violence in writers from Poe to Cormac McCarthy. Prerequisite or corequisite: FYC-101. *(H, WK-HT)*

EN-247 Writing for Change *(4 credits)* This course immerses students into the study and practice of writing that strives to bring about social change. Students will explore the argumentative tactics of writing in the service of advocacy, activism, and non-profit organizations, as well as its circulation across audiences and platforms. In addition to crafting public-facing genres like op-eds, persuasive articles, and posters, students investigate the process of grant-writing and the strategies of media campaigns. Prerequisite: FYC-101. (Previously titled Writing for Social Change) *(H, SW-US)*

EN-251 Narratives of Slavery *(4 credits)* The personal narratives of people enslaved in the United States are the foundational works of the African American literary tradition, and they have influenced generations of

American authors. Originally written as a means of promoting the abolition of slavery, contemporary writers have taken this historical form and transformed it to reflect upon the past and engage with problems of the present. In this course, we will read a variety of original narratives of slavery and put them in dialogue with contemporary fictionalized narratives depicting the experience of slavery. In doing so, we will explore topics such as the boundaries between fact and fiction, the political uses of literature, the afterlife of slavery, cultural authenticity, and many others. Prerequisite: FYC-101 or EN-110 or EN-109. *(H, CW, SW-US)*

EN-253 Literature of the Jazz Age *(3 credits)* Called the "Jazz Age" by F. Scott Fitzgerald, the 1920s were marked by great cultural change. In response to the trauma of the First World War, the "lost generation" broke traditional social barriers while embracing radically new forms of art. Beginning in 1920 (the year both women's suffrage and prohibition were passed as constitutional amendments) and concluding with the 1929 stock market crash that signaled the start of the Great Depression, we will examine the role of the Harlem Renaissance in inspiring and sustaining domestic and expatriate American modernism. With special emphasis on the interplay of art, music, and literature, this class will examine the literature of the Jazz Age across genre"and racial" boundaries, concluding with two contemporary works that evaluate the lasting significance of this era on American culture. Prerequisite: EN110 or EN109. *(H)*

EN-255 Passing Narratives *(4 credits)* Passing narratives investigate how the boundaries of identity can be reimagined. Most often depicting racial passing (when a person "passes for" someone of another race), these narratives also can be about performing another gender or sexual identity. In this course, we will trace the evolution of this trope through American literature and film. Prerequisites: FYC-101 or EN-110 or EN-109. *(CA, H)*

EN-262 Unhappily Ever After *(3 credits)* Deaths. Betrayals. Loves lost. Falls from grace. These calamities, and those that suffer them, have captivated dramatists, novelists, philosophers, and theoreticians since the first tragedy was staged in ancient Athens over 2,500 years ago. This course will explore how literary cultures have understood and expressed notions of tragedy in different historical periods. By examining the ways in which we inflict and endure suffering, we will consider how literary tragedy informs our understanding of the human condition. *(H)*

EN-271 Public Health Writing *(3 credits)* Focuses on health and medical writing for public audiences. The course will familiarize students with health literacy, plain language, and visual communication skills. Students will analyze and compose common genres of public health writing, including reports about health in the media, advocacy documents, science journalism articles, and public health posters. Prerequisites: EN110 or EN109. *(H, CW)*

EN-272 Introduction to Professional Writing *(3 credits)* What are we talking about when we talk about professionalism? What characterizes professional communication? In today's world, what does it mean to use professional writing ethically? To answer these questions, this course focuses on the study, practice, and revision of writing in professional settings. Examining and producing memos, proposals, and reports, students take concrete steps towards exploring potential future careers. Prerequisite or Corequisite: FYC-101 or EN-110 or EN-109. *(H, CW, SW-ER)*

EN-273 Visual Literacy *(4 credits)* In today's multimedia world, images communicate meaning and advance arguments in numerous ways, and new technologies of the visual demand new forms of literacy to understand, interpret, and create visual communication. Through comics and graphic novels, maps, visual arguments, and theories of seeing, this course immerses students into the theory and practices of visual literacy. Prereq: FYC-101 or EN-110 or EN-109. *(H, WK-HT)*

EN-299 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

EN-301 Young Adult Literature *(4 credits)* Students will read & analyze a variety of literature from the Young Adult Lit category. Students will engage in class discussions and make presentations based on individual research. *(H)*

EN-302 The Literature of Social Protest *(4 credits)* In this course, we will explore the use of literature as a means of protesting social injustice throughout U.S. history. How have American authors used novels, poems, stories, and essays to illustrate social problems, create empathy, and advocate for social change? What are the boundaries between art and politics? How might literary aesthetics inspire social action? How has literature shaped social progress and vice versa? Questions of literary form, merit, and content will guide our search, as will questions of representation, politics, and economics. Though topics will range widely (but often intersect), we will ask how each literary work engages with the foundational statement of American dissent, "The Declaration of Independence." Prerequisite or corequisite: FYC-101 or EN-110 or EN-109. *(SW-US)*

EN-305 Fiction Writing *(4 credits)* In this course, we will work to develop skills in the art of writing fiction. Students will study fiction as a craft, read and discuss fiction by major writers, critique each other's work, and write and revise extensively. Prerequisite: FYC- 101. *(F, H, WK-CE)*

EN-306 Creative Nonfiction Writing *(4 credits)* The course introduces the art of the creative nonfiction essay-types of essays, variety of forms, and purposes of the essay. Students will write essays, revise extensively, and critique each other's work throughout the course. Through this process, students become familiar with the formal elements of prose style. Prerequisite: FYC-101 or EN-110 or EN-109. Also must have sophomore class standing or above. *(H, CW, WK-CE)*

EN-307 Mythology in Film *(4 credits)* This course will explore how film communicates the myths of a various societies to its members. By combining theoretical approaches to myth with film analysis, we will explore the ways in which cinema both influences and reflects the way we think, what we value, fear, and aspire to achieve. Focusing on some of the most prevalent themes in this genre, students will be introduced to Classical and contemporary adaptations of myths and their historical and cultural contexts, examining how those narratives provide meaning today via cinema. Prerequisites: EN110 or EN108 and EN109. *(H, WK-HT)*

EN-308 English Research Methods *(2 credits)* This course is an introduction to English research methods taken in the junior year. Students will learn and negotiate the research process, applying the skills learned to their analysis of literary works or writing research. Writing, ethics, and constructing effective research questions and arguments will be covered to prepare students for completing their senior research thesis, paper, or creative project. Pre-req: EN-204 English Colloquium and Junior Standing

EN-311 Professional News and Feature Writing *(4 credits)* This advanced writing course introduces students to the genres and techniques of journalism. Students will write a number of news and feature stories. The writing process involves interviewing, note-taking and other forms of data gathering on campus and at local news events, creating multiple story drafts, and participating in peer-editing workshops. Work culminates in a portfolio of stories written throughout the semester. Students need not plan to become professional media writers to benefit from the course. Prerequisite: FYC-101, EN-110, or EN-109. *(H, CW)*

EN-312 Literature of Revenge *(4 credits)* Students will examine the various functions revenge plays in human culture while tracing its role as a literary device from the bloodbaths of Greek tragedies to the

psychological retaliation of contemporary works. Studying historical and cultural influences that have shaped notions of revenge over centuries, students will contemplate the complicated distinctions humans make between perceptions of retribution and justice. Prereq: FYC-101 or EN-110 or EN-109. *(H, SW-ER)*

EN-313 Firing the Canon *(4 credits)* When talking about the canon in literature, we are usually gesturing towards the classics-works of art that have stood the test of time as culturally significant. How did those books become classic in the first place? We will study the histories of canon formation before debating what works to include in a self-designed literary anthology. Prerequisite: FYC-101. *(H, WK-HT)*

EN-315 Technical Writing *(4 credits)* Writing focuses on various document designs and ways to present those designs in expressions appropriate to audience and purpose. Ethical discussion focuses on quality control, accuracy, and various forms of bias. Prerequisites: FYC-101 and sophomore, junior or senior standing. *(H, CW, SW-ER)*

EN-341 Shakespearean Drama *(4 credits)* Examines historical moments, cultural perspectives, and theatrical constructs that shaped the writing, acting, and reception of Shakespeare's comedies, tragedies, and history plays. Prerequisite: EN110 or EN109. *(H)*

EN-372 Contemporary Poetry *(3 credits)* Contemporary poetry speaks to us right there and now, whether in a personal cry of emotion or in a piercing cultural commentary. This course studies representative poets from our own age, with emphasis on the social context of the times. Different poets are discussed each time the course is taught, but every year you'll actually get to meet one of them up close and personal, as part of our Pennsylvania Poet series. Prerequisite: EN110 or EN109. *(CA, H)*

EN-374 Ethical Game Design *(4 credits)* This course focuses on both the use of ethical principles to design games and the critical study of ethical games, which position players to make ethical decisions throughout the game. After learning about ethical principles through play and analysis, students design a text-based game where players make ethical choices shaping the narrative and experience of the game. Prerequisite: FYC-101 *(SW-ER, H, CW, CTDH)*

EN-376 Writing Across Media *(4 credits)* Contemporary life asks us to be agile interpreters of images, texts, and sounds. In response, this course immerses students into the theory and practice of how and why we choose the media in which we communicate. Through an assignment sequence that includes text, webtext, image, sound, and video, students gain strength and versatility as writers by honing their awareness of genre, audience, and rhetorical situation. Pre-Req: FYC-101 or EN-110 or EN-109 *(H, CW, WK-CE, CTDH)*

EN-378 Video Production Writing *(4 credits)* Writing for Video Production is a course that combines contemporary rhetoric, creative inquiry, design thinking, media authorship, self-reflection, and social engagement. Students complete directed writing such as journal entries, scripts, storyboards, and shotlists in concert with video production, facilitating an integrated process of thinking, creating, and problem-solving. Take FYC-101 or EN-110 or EN-109 *(H, CW, CTDH, WK-CE)*

EN-379 Professional Editing *(4 credits)* This course provides a broad understanding of editing and its role in document development, publication, and use. Students will learn to edit effectively on a range of editing tasks and documents and edit documents for a community partner project. These skills will prepare students for a variety of professional editing positions. Prerequisite: FYC-101 or EN-110 or EN-109. *(H, SW-LE)*

EN-385 Queer Literature *(4 credits)* By applying queer theory frameworks to a variety of texts, we will examine literary representations of LGBTQ identity. Readings will include works by James Baldwin, John Rechy, Audre Lorde, Leslie Feinberg, Tony Kushner, and others. Topics will include: biological essentialism

vs. the social construction of gender and sexual identity; authenticity and performance; social and legal forms of identity categorization and boundary maintenance; the role of literature in social reform; and more. Prerequisites: EN110 or EN109. *(CA, H)*

EN-388 Heroes and Villains *(3 credits)* Heroes-yay! Villains-hiss! All our lives we've learned to think in terms of good guys and bad guys. But why do we think in those categories? And what exactly do we mean by good guys and bad guys? And should we even be in the business of separating good guys from bad guys? This course will take a detailed look at heroes and villains in literature, movies, and television, and ask you to think about the whole duality, and what it means for the stories we tell. Prerequisites: EN110 or EN109. *(H)*

EN-392 Crossing the Border *(4 credits)* This class will examine the many meanings of "border crossing" in 20th- and 21st-century literature about immigration to the United States. Using critical race theory, this class will put works of fiction and autobiography in historical context to better investigate the influence of immigration law on U.S. national literature. Beginning with short texts from the turn of the twentieth century, we will focus primarily on contemporary works dealing with the post-1965 (or "new wave") immigrant experience. Topics will include: "American Dream" mythology, social mobility, generational conflict, acculturation and assimilation, hyphenated identity, nativism, barriers to full citizenship, and more. Pre-req: FYC-101 or EN-110 or EN-109 *(H, CW, SW-US)*

EN-399 Special Topics *(1-4 credits)* Offers special studies to meet the interests and demands of students. past examples include "Terry Pratchett" and "Renaissance Drama". Note: Students may take each ST: course for credit.

EN-490 English Internship *(1-9 credits)* English students may apply their acquired skills and knowledge in on-the-job internships. Requires permission of the instructor and sophomore, junior, or senior standing. Corequisite: EN-495. *(H)*

EN-493 English Research Seminar *(2-3 credits)* This course is a seminar-style introduction to advanced research methodology in literature and linguistics for senior English POEs. Students will work simultaneously with the course instructor and a thesis advisor from within the English department to develop a thesis plan and to begin its execution. Prerequisites: EN120, EN122 and EN204; Senior standing; instructor permission only. *(H)*

EN-495 Internship Seminar *(1-6 credits)* In addition to the on-the-job experience provided by the internship, the student is required to complete academic research related to the placement. Requires permission of instructor and sophomore, junior, or senior standing. Corequisite: EN-490. *(H)*

EN-496 Senior Research Capstone *(2-4 credits)* This course serves as a capstone experience in English that culminates in a substantial written thesis. The individual research project is conducted under the guidance of an English department faculty member. When completed, the thesis is presented in a public forum such as Liberal Arts Symposium, an oral defense, or a conference. Prerequisites: EN120, EN122, EN204 and EN493; Senior standing. *(H)*

EN-499 Special Topics *(1-4 credits)* Allows department to offer subjects not normally taught. Requisites vary by title.

EN-INS Independent Study *(1-4 credits)* See catalog.

EXERCISE SCIENCE & KINESIOLOGY (ESK)

ESK-101 Introduction to Exercise Science *(2 credits)* Introduction to Exercise Science will cover the history and development of Exercise Science and its relative components within sports, physical education, health, fitness, and kinesiology professions. Students will be introduced to current trends, characteristics, and content areas of exercise science, along with career and practice settings and opportunities.

ESK-199 ESK Special Topics *(1-4 credits)*

ESK-206 Musculoskeletal Anatomy *(3 credits)* This course introduces principles, terminology, and function of the musculoskeletal system. Specific topics will include joint movements, muscle action, and basic function associated with the neuromuscular system. Laboratory experiences will allow the student to visualize and demonstrate movement patterns associated with basic functional movement. Prerequisite: BI-119 or ESK-106.

ESK-299 ESK Special Topics *(1-4 credits)*

ESK-303 Motor Learning & Control *(3 credits)* What do the acts of throwing a ball and tying your shoes have in common? They are both motor skills requiring the manipulation of your body in a specific way to achieve a goal. What else do they have in common? You have to learn how to do both well. In this course on Motor Learning and Control (MLC), we will learn about these two critical aspects of motor performance through the exploration of the neuroscience of movement, various theories of motor control, and what it means to learn a skill and effective methods and techniques of doing so. Prerequisite: BI-101 or PY-101, and sophomore standing.

ESK-310 Exercise Physiology *(3 credits)* Exercise Physiology will introduce and investigate physiological responses and adaptations of the human body to exercise, as well as adaptations necessary to sustain and/or develop exercise tolerance. Concepts of cardiovascular and respiratory responses to exercise, energy production, metabolism, neuromuscular, will be investigated in laboratory settings. Prerequisite: BI-119 or ESK-106.

ESK-312 Strength & Conditioning *(3 credits)* Strength & Conditioning will introduce students to the knowledge, skills, and abilities required of a strength and conditioning professional and to prepare them for the Certified Strength and Conditioning Specialist (CSCS) exam. Such an experience and certification will facilitate recognition as a unique professional in Exercise and Sport Science programs, including the fitness industry. Prerequisite: ESK-206.

ESK-340 Biomechanics *(3 credits)* Biomechanics will introduce and investigate the principles of mechanics and how they apply to human movement, including sports, injuries, and rehabilitation. Students will learn about the basic principles of mechanics, including kinematics, kinetics, and the laws of motion. Certain concepts will be investigated in laboratory settings. Prerequisite: ESK-206.

ESK-399 ESK Special Topics *(1-4 credits)*

ESK-430 Exercise Testing & Prescription *(3 credits)* Exercise Testing & Prescription will prepare students to understand the principles and practices of exercise testing and prescription. Students will learn how to engage in exercise prescription aimed to improve fitness and health outcomes, how to administer health and fitness assessments, and how to problem solve and make decisions. Prerequisite: ESK-310. Must have senior class standing.

ESK-489 Exer Sci & Kin Research *(1-6 credits)*

ESK-490 Exercise Science & Kines. Internship *(1-9 credits)* Corequisite: ESK-495. Must have sophomore, junior, or senior standing.

ESK-495 Internship Seminar *(1-6 credits)* Corequisite: ESK-490. Must have sophomore, junior, or senior standing.

ESK-498 Exer Sci & Kines Practicum Capstone *(3 credits)* The Capstone will provide students with supervised experiences in Exercise Science or related discipline. The student will have the opportunity to apply their accrued skills and knowledge in an environment that requires hands-on professional practices by participating in a research opportunity or internship in exercise science. This course must be taken within the students last 30 credits at Juniata. Requires senior standing and instructor permission.

ESK-499 ESK Special Topics *(1-4 credits)*

ESK-TUT ESK Teaching Assistant *(1-4 credits)*

ENGLISH AS A SECOND LANGUAGE (ESL)

ESL-150 Academic Writing *(3 credits)* The focus of this course is developing writing fluency, as well as helping students find their own writing styles. Students will explore and apply the writing process, including brainstorming, organizing, writing drafts, proofreading, and revising. In and out of class activities will include reviewing and analyzing their own writing as well as that of their classmates, organizing a portfolio, and writing three main essays exploring different academic writing forms.

ESL-151 Conversation and Discussion *(3 credits)* The focus of this course is learning and strengthening the skills of conversation and discussion often used on the campuses of North American colleges and universities. Students will more fully develop awareness of different academic and social situations which will require different levels of politeness and personal attention. Activities will include a reflective listening journal, note taking, and in-class presentations/speeches.

ESL-152 Reading and Vocabulary Development *(3 credits)* The focus of this course is developing specific strategies for improving reading comprehension and rate by using authentic materials: media and college-related texts. Vocabulary development will be an important component of the class, so that the students are better able to understand complex written information. Through on-campus interviews and discussion groups, students will understand the norms and expectations of the U.S. academic environment.

ESL-153 Grammar in Use-Level II *(3 credits)* The focus of this course is improving knowledge and use of written grammar as it applies to North American colleges and universities. Through the student's writings various grammatical structures will be explicitly examined, practiced, and applied. Although the focus of the course is grammar in writing, spoken grammar will also be covered through class discussions.

ESL-170 Academic Writing II *(3 credits)* The focus of this course is on improving academic writing skills needed to write more structured and complex essays in English. This course will guide students from more formulaic writing to more comprehensive writing by developing skills to express arguments clearly and with strong support. Timed-writings and peer-evaluations are strong components of the course as well.

ESL-179 Academic Writing II: Lab *(1 credits)* This course, in combination with ESL 170, will develop your academic writing skills through a focus on writing process. You will focus on the stages of brainstorming, topic selection, outlining, sourcing, composing and editing. Through close interaction with the teacher and assistants, you will learn the skills to be able to write more complex and expressive essays in English.

ESL-199 Special Topics *(1-4 credits)* The IEP can offer special courses based on student and program needs.

ESL-202 Advanced ESL Reading *(3 credits)* ESL 202: Advanced ESL Reading is designed to strengthen college level reading skills and help students learn to analyze readings from multiple points of view. Novels and other texts will provide the context for us to articulate and contrast the values, beliefs, or practices of different cultures and describe global challenges and ways different cultures address them. *(SW-GE)*

ESL-211 Advanced Listening and Speaking Seminar *(3 credits)* High-level listening and speaking skills are needed to participate in North American college classrooms. This course is linked with a 3-credit, 100-level course and students earn credits for both courses. Through group discussion, oral presentations, video and an off-campus lab with Language in Motion, students improve their language skills and gain an understanding of content. Requisites: Take a linked 100-level course (speak to instructor). *(CS, SW-GE)*

ESL-250 College Writing *(3 credits)* The focus of this course is to enable students to write proficiently and confidently at a high level equal to American college students. Students will complete four essays which represent those most frequently written by college students. They will learn specific organizational strategies and elements of style which match North American academic expectations. Multiple revisions will be complemented by conferences with the instructor, Writing Center tutors, and peer-editing. *(CW)*

ESL-259 College Writing: Lab *(1 credits)* This course will improve your academic writing skills by developing your written process. In collaboration with the teachers and assistants, you will work on essays from ESL 250 focusing on the many stages of writing, including brainstorming, outlining, sourcing, composing, editing, re-writing, and peer-review. You will learn the process to write more complex and expressive essays in English.

ESL-299 Special Topics *(1-4 credits)* The IEP can offer special courses based on student and program needs.

ESL-INS English as Second Language Ind Stdy *(1-4 credits)* See Catalog.

ESL-TUT ESL Teaching Assistant *(1-4 credits)*

ENVIRONMENTAL SCIENCE & STUDIES (ESS)

ESS-001 Non-credit ESS Internship *(0 credits)* Provides students an overview of an organization as well as providing an opportunity for practical application of the skill developed in students' area of concentration. Note: see the chapter"Special Programs"under Internships;listed as internship: (Title); must be 6 weeks long. Prerequisite: Permission.

ESS-100 Environmental Systems I *(4 credits)* This course introduces students to the concept of systems, reviews ecological systems, and then goes on to human systems as these impact the environment. The course will explore the two forces that are at the core of most environmental impacts (climate change, ozone depletion, air and water pollution, and a loss of biodiversity) will be explored as will the fundamental attributes of agriculture, food, soil, and water. Throughout, the influence of culture, society, ethics, and science on the environmental problems will be discussed. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109 *(N, WK-SP, CTGIS)*

ESS-110 Environmental Systems II *(3 credits)* This course introduces students to the concepts of environmental systems and sustainability, review of ecological systems, and human impact on the environment. Students will work on a restoration/conservation project with a community partner to improve soil/water resource quality in the community. Students will be introduced to scientific writing and write a

scientific paper. Prerequisite or corequisite: FYC-101 or EN-110 or EN-109. Students also must be in Program of Emphasis that is based in the Environmental Sciences & Studies Department to register for this course. *(N, SW-LE)*

ESS-111 Introduction to Maple Sugaring *(1 credits)* Discover the sweet science behind maple syrup production in this hands-on beginner's course. Learn the basics of identifying sugar maple trees, tapping techniques, sap collection, and boiling methods to transform sap into syrup. This class covers both traditional and modern practices, with a focus on sustainable and small-scale sugaring. Perfect for hobbyists, nature enthusiasts, and anyone curious about this iconic seasonal craft. Note: This course includes six weeks of on-campus class meetings at the beginning of the term plus 12 practicum hours at the Raystown Field Station. Practicum hours can be completed in three-hour blocks on Saturdays from mid-February through the end of March. Transportation to the field station will be provided.

ESS-118 Global Justice Film *(1 credits)* Through the medium of film, this one-credit course showcases environmental and sustainability issues within a global context. The themes and documentaries presented in the course will focus on intersecting elements of the environment, culture, access, class, gender, sustainability, and innovation. Based on the documentaries and discussion in the course, opportunities to engage in local sustainable measures will be possible.

ESS-119 Environmental Film *(1 credits)* This course explores classic and current environmental and nature films and documentaries as both art and information. Students will watch and discuss 10 films. *(F)*

ESS-121 Environmental Film Lab *(2 credits)* Create a short nature or environmental film. The course will cover filming, sound interviewing experts, and post-production. Students will use Adobe Premier and Audition. *(F)*

ESS-145 Applied Underwater Techniques *(1 credits)* This course will provide participants with the necessary knowledge and skills to conduct themselves with competence while using self-contained underwater breathing apparatus (SCUBA) and basic techniques in snorkeling. The course will include the Open Water Diver Training and certification from PADI. We will become more familiar with both SCUBA and snorkeling equipment in several required pool session. These skills will be used for and underwater data collection. Participation is not a guarantee of certification. Certification will require two open dives included in the course.

ESS-198 Environmental Stewardship *(4 credits)* This course aims to provide participants with a holistic understanding of environmental stewardship, encompassing both theoretical knowledge and practical skills. Upon completion, students will be able to both actively practice skills that reduce their environmental impacts and allow them to responsibly manage natural resources, and serve as instructors and mentors for others to sustainably engage with their environment. Pre- or co-requisite: FYC-101 *(SW-ER)*

ESS-199 Special Topics *(1-4 credits)* Allows departments to offer topics not normally scheduled. Prerequisites, corequisites, and fees vary by title.

ESS-206 Global Environmental Issues *(3 credits)* Global Environmental Issues is a global public health course. Environmental problems create some of the most pressing public health issues of our time. This course seeks to train the participants to identify the public health challenges created by environmental problems in various parts of the world and exploring practical solutions for those problems. Prerequisite or corequisite: FYC-101 *(N, WK-SI)*

ESS-212 Kenyan Cultures & Natural Resources I *(2 credits)* This short-term study abroad course series provides an interdisciplinary and intercultural introduction to Kenya though a wide range of experiences. Kenya is a diverse country with many different ecosystems, languages, and cultural traditions, making it a dynamic and vibrant place. Apart from visiting national parks, the students will examine wildlife management as a tool to build economic resilience in communities. NOTE: This is a two-course sequence that includes a predeparture course (ESS-212) on campus in spring semester and a two-week travel course in summer term (ESS-213). Prerequisite or Corequisite: FYC-101. The total fee for the experience is split between the two courses, with the majority of the fee on the spring semester billing and a $250 administrative fee on the summer term billing. *(SW-GE)*

ESS-213 Kenyan Cultures and Natural Resources II *(2 credits)* This short-term study abroad course series provides an interdisciplinary and intercultural introduction to Kenya though a wide range of experiences. Kenya is a diverse country with many different ecosystems, languages, and cultural traditions, making it a dynamic and vibrant place. Apart from visiting national parks, the students will examine wildlife management as a tool to build economic resilience in communities. This is a two-course sequence that includes a predeparture course (ESS-212) on campus in spring semester and a two-week travel course in summer term (ESS-213). Prerequisite: ESS-212. NOTE: The total fee for the experience is split between the two courses, with the majority of the fee on the spring semester billing and a $250 administrative fee on the summer term billing. *(SW-GE)*

ESS-219 Agroecology *(1 credits)* This course will explore alternate production systems in agriculture as ecological systems. *(N)*

ESS-224 Wildlife Mgmt *(3 credits)* Wildlife management incorporates the science and management of wild animals, both rare and common species. Threatened species may require particular knowledge of population structure and processes for effective management, while common species may need control or might be exploited as novel production products. Prerequisites: ESS-100 or BI-101 or BI-105. *(N)*

ESS-225 Wildlife Management Techniques *(2 credits)* Course will provide students with knowledge of common field research techniques employed by wildlife biologists. *(N)*

ESS-230 Environmetrics *(3 credits)* This course is a survey of the various visual, statistical, and modeling approaches commonly used in the analysis of environmental data. The course covers: (1) visual literacy from exploratory data inquisition to poster creation; (2) elementary group comparisons such as t-test and ANOVA and their non-parametric analogs;(3) basic systems modeling; and (4) regression modeling techniques based on the generalized linear model framework. *(N, QS, CTGES, CTGIS)*

ESS-235 Environmental Reading *(1 credits)* This class will explore 2-3 classic and/or modern works in environmental studies and natural history. The writers list includes: Aldo Leopold, Annie Dillard, Dan Dagett, Saul Alinski, Wangari Maathai, Gifford Pinchot, Bill McKibben, Mary Kingsley, Ian McHarg, Wendel Berry, Andrew Lytle, Ester Boserup, Roderick Nash, Vandana Shiva, Rose Reuter, Barry Lopez, Bernd Heinrich and others. *(N, CW)*

ESS-261 Marine Biology I *(3 credits)* This course takes a biological, physiological, and ecological approach to studying life in the oceans. We start with a basic review of the ocean. We will then provide an overview of the oceans as the course has a global focus. We then take a biological tour up the food chain. *(N)*

ESS-265 Food Fermentation *(1 credits)* Salt, pH, bacteria, fungi, heat, and evaporation have been used by cultures around the work to preserve and enhance food. We will explore these processes by reading about

the processes and then producing some of the simpler products from these traditions including jerky (drying and salting), cheese (bacterial and enzymatic fermentation), artisanal bread (fungal and bacterial fermentation), kimchi (bacterial fermentation), kombucha (Fungal and Bacterial fermentation), essential oils (evaporation and precipitation), and fermented but non-alcoholic ciders (fungal fermentation and pH reduction). *(N)*

ESS-297 Fire Ecology & Management *(2 credits)* This course provides students with an understanding of wildland fire fighting and controlled burns as tools for forest management. The successful student will have satisfied the minimum training requirements to participate in controlled burns and fight wildland fires.

ESS-298 Animal Care, Training , and Education *(4 credits)* The Animal Care, Training, and Education course covers all aspects of operating an educational wildlife center. Topics include permitting, housing, husbandry, training, and conservation outreach with native wildlife. The course will provide the scientific foundations of animal husbandry, behavioral science, and educational methodology. A strong hands-on component, utilizing Shaver's Creek Environmental Center's Animal Care Facilities, provides students with an immersive experience to develop these skills under the guidance of the centers' staff. Select field sessions will enhance conservation connections to Shaver's Creek's live animal exhibits. *(N)*

ESS-299 Special Topics *(1-4 credits)* Allows the departments to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites, corequisites, and fees vary by title. *(N)*

ESS-301 Environmental Methods *(3 credits)* This course deals with a variety of environmental issues and problems. This includes the causes and the scientific and social backgrounds needed to understand them. It also introduces the student to the roles of scientists and engineers in dealing with them. The course involves both quantitative and qualitative assessments. Prerequisites: ESS100 and 1 year of chemistry or permission of the instructor. *(N)*

ESS-305 Environmental Economics *(3 credits)* This course will cover the basics of microeconomic analysis as it applies to the environmental decision making and environmental policy with respect to pollution abetment, resource harvesting, and sustainability analysis. The course will also explore the strengths and weaknesses of economic models of human behavior. Finally, the course explores the growing concern of sustainable and resilient economies. Prerequisites: Sophomore standing or permission of the instructor. *(S)*

ESS-309 Econometrics *(2 credits)* A first course in econometrics with forays into regression, optimization, and modeling. Prerequisites: Introductory economics course. *(N, Q)*

ESS-310 Water Resources I *(3 credits)* This course provides the student with a working overview of the hydrologic cycle, providing the student with the basic concepts of all aspects of hydrology. Particular emphasis is placed on the integrative nature of ecosystems within the watershed, including the interdependencies and driving forces of energy, the atmosphere, the hydrosphere, and the land, and the biosphere. Prerequisites: ESS100. *(QM, N)*

ESS-315 Environmental Chemistry *(4 credits)* Environmental Chemistry is an application of chemical principles to the study of the environment. It includes natural processes and pollution problems related to air, water, and soil.

ESS-320 Environmental Monitoring *(4 credits)* This course develops skills in monitoring the environment, with a strong focus on water quality monitoring (both chemical and biological) in a variety of habitats. Environmental site assessment will also be conducted. A weekend-long field trip is required. Prerequisite: ESS100 and ESS200 or permission. *(N)*

ESS-323 Aquatic Ecology *(4 credits)* A study of the physical, chemical, and biological aspects of streams, rivers, ponds, and lakes. Emphasis on the role of water chemistry, pollution, and biotic interactions on the distribution of aquatic life. Laboratory includes field sampling and identification of aquatic organisms. *(N)*

ESS-324 Natural Resource Management *(3 credits)* This course provides a comprehensive coverage of local, regional, national, and global resource and environmental issues from population growth to wetlands to sustainable agriculture and natural resource policies and legislation. It considers renewable and non-renewable resources such as water, land, soil, air, wildlife, and their associated habitats. Prerequisites: ESS-100 and either BI-101 or BI-105. *(N)*

ESS-325 Conservation Biology *(3 credits)* Conservation Biology encompasses biology, politics, ethics, economics and anthropology. The major course objective is the exploration of conservation complexities--important for successful conservation efforts. Other objectives are to gain an understanding of extinction, community conservation, population genetics and demography. Prerequisites: ESS-100 or BI-101 or BI-105. *(S, N)*

ESS-328 Limnology *(4 credits)* An ecology/environmental science course covering inland aquatic environments (lakes and streams). A balanced study of both physical-chemical and biological aspects, it is an appropriate upper-level addition to a variety of POEs in natural sciences. Pre-Reqs: ESS-100 and either BI-101 or BI-105. *(N)*

ESS-330 Geographical Information Systems *(4 credits)* This course is an introduction to a Geographical Information System (GIS), and the course objective is that students gain a basic, partial understanding of GIS concepts, technical issues, and applications using Arc View GIS. It encourages thinking in spatial context. A diverse array of hands-on computer applications and projects are used to understand how geographical data can be analyzed spatially. Students explore analysis techniques in a problem basis learning approach using small team projects. Note: A special course fee is assessed. Prerequisite: ESS100. *(CTGIS)*

ESS-335 Quantitative Ecology *(4 credits)* The goal of the course is to advance student understanding of a broad range of numerical and graphical techniques used to analyze complex data sets encountered in the environmental sciences. Students will learn the context to properly apply these techniques to address research questions. The purview is ecological, but is applicable to all other quantitative endeavors. The course emphasizes conceptual understanding, relevant applications, and proper interpretation rather than gory, though interesting, statistical theory. Students will apply the R language and environment for statistical computing to tailor analyses to specific circumstances. Pre-reqs: ESS-110 and ESS 230. *(QS)*

ESS-337 Environmental Law *(3 credits)* This course will examine the major environmental laws in the United States and major Supreme Court cases covering these statutes. The status covered will be National Environmental Policy Act (NEPA), The Clean Water Act (CWA), Clean Air Act (CAA), Endangered Species Act (ESA), Federal Insecticide Fungicide and Rodenticide Act (FIFRA), Toxic Substances Control Act (TOSCA), Forest Land Policy and Management Act (FLPMA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the Superfund Amendment and Reauthorization Act (SARA). Prerequisites: ESS-100 or PS-110. Must also have sophomore standing or above. *(S, CTGIS)*

ESS-340 Forestry *(3 credits)* This course provides a comprehensive survey of the discipline of forestry and forest ecology with special emphasis on tree identification, timber mensuration, and forest management issues in central Pennsylvania. Prerequisites: ESS100. *(N, CTGIS)*

ESS-345 Ichthyology *(4 credits)* This course provides an in-depth and active hands-on study of fishes within an evolutionary framework. Lecture explores fish ecology, evolution, diversity, systematics, zoogeography, and conservation. Laboratory focuses on fish classification, fish biology and morphology, and skills needed to identify fishes of the central Appalachians. Prerequisites: BI-101 or BI-105. *(N, QS, CTGIS)*

ESS-346 Freshwater Invertebrates *(4 credits)* This course provides an applied experience studying aquatic invertebrates that occupy freshwater ecosystems of North America. Lecture focuses on invertebrate ecology, sampling, monitoring, and analysis strategies for bioassessment, conservation, and description of taxa. Laboratory focuses on taxonomy, classification, and identification of families of invertebrates of the local central Appalachians. Prerequisites: BI-101 or BI-105 and junior standing. *(N, QS)*

ESS-348 Watershed Restoration *(4 credits)* This course introduces concepts in watershed ecology and principles of watershed restoration. Focus is on natural river form and function, anthropogenic disturbances, restoration strategies, designing and conducting assessments in accordance with United States EPA/Pennsylvania DEP methodology, and prioritizing restoration needs. The course employs a combination of lectures, readings, applied hands-on experiences, and field trips to various river locations.

ESS-350 Field Research Methods *(3 credits)* Field Methodologies is intended for students interested in gaining experience in conducting filed based ecological or environmental research. Students will be lead through the process of investigation, including the generation of research questions, research planning and design, analysis of data, and presentation methods, while giving them the opportunity to conduct independent projects. This is not a techniques/equipment training course; it will fulfill the independent study requirement of the ESS POE. This course will be particularly useful to students considering a field based senior research project. A course in statistics or ecology is highly recommended. Prerequisites: ESS100. *(N, CTGIS)*

ESS-352 Restoration Ecology *(4 credits)* This course provides an overview of how ecological knowledge can be used to guide the recovery or restoration of degraded ecosystems. Although many restoration projects are constrained logistically (money, people power, statutes, etc.), we focus largely on ecological processes, biological and landscape constraints, and what the science of ecology can bring to the field of ecological restoration. *(N)*

ESS-355 Ornithology *(3 credits)* This course provides a comprehensive survey of the comparative biology, ecology, and behavior of birds with a special focus on issues pertaining to conservation management. Laboratory activities focus on field identification of birds and research and monitoring techniques. Prerequisite: BI-101 or BI-105. *(N)*

ESS-361 Field Methods in Marine Systems *(4 credits)* This field methods in marine systems course includes underwater and near coastal field techniques, quantitative methods, and a scientific writing. The underwater sections may lead to advanced PADI certifications based on completion of specific skills. Prerequisite: ESS-145 or permission of instructor. *(N, Q)*

ESS-365 Sustainable Development *(3 credits)* This course explores the cultural, ethical, ecological and engineering complexities of sustainable development. Water, agriculture, and wildlife conservation will play a central role in the topics. Distributive justice will play a central role in the ethical considerations. The material will focus on comparison between locally sustainability effort and those of our partners in India, Nepal, Ecuador, Virginia, and Pennsylvania. Pre- or co-requisite: FYC-101. *(I, N, SW-ER)*

ESS-366 Sustainable Develop Practicum *(1 credits)* This course is the practicum component of the Sustainable Development series that explores the cultural, ethical, ecological and engineering complexities of sustainable development. The course includes preparatory meetings in the preceding semester and 16 days in Nepal and India. NOTE: ESS-366 is the second course in a two-course series, with students earning 2 credits in the fall or spring semester for the predeparture course and 1 credit in the summer or winter term for the trip to India and Nepal. The total fee for the experience is split between the two courses in the series. (While this course series includes a study abroad component, please note that it counts towards the Ethical Responsibility requirement, not the Global Engagement requirement.) Prerequisite: ESS-365. *(SW-ER)*

ESS-377 GIS Advanced Topic *(4 credits)* This course explores spatial decision support systems, hot spot modeling for home range, disease and crime, intermediate image analysis, habitat classification from multispectral and hyperspectral imagery. Prerequisites: ESS310 or ESS330 or permission of the instructor. *(N, QS)*

ESS-380 Sense of Place Seminar *(3 credits)* Taught at Raystown Field Station. This is the "cornerstone" of the Sense of Place semester, managed by one faculty, but comprised of a series of modules taught by various faculty and guest speakers. Module topics cover a range of environmental, ecological, and societal issues connecting to the region. Students will be expected to journal their experiences at RFS as well as complete other writing assignments. Note: There is a course fee assessed. Prerequisites: ESS100 or permission of the instructor. *(CA, CW)*

ESS-399 Special Topics *(1-4 credits)* Topics vary from year to year. They will focus one or more special environmental skills, methods, approaches or technologies. A laboratory fee will be assessed.

ESS-399L Special Topics Lab *(1 credits)*

ESS-400 Senior Capstone I *(3 credits)* The Senior Capstone course is intended to provide a real-world, project-based experience working on an advanced-level project. The student teams utilize skills they have acquired in their academic career to evaluate and provide potential solutions to realistic environmental tasks. The project will be chosen each semester based on needs and opportunities in local agencies to provide an advanced project that can be done in one semester. Prerequisite: Senior standing or permission of the instructor. *(S, CTGIS)*

ESS-401 Senior Capstone II *(3 credits)* This course is the spring semester Senior Capstone option. It is intended to provide a real-world, project-based experience working on an advanced-level project. The student teams utilize skills they have acquired in their academic career to evaluate and provide potential solutions to realistic environmental tasks. The project will be chosen each year based on needs and opportunities in local agencies to provide an advanced project that can be done in one year. Prerequisite: ESS-100 and Senior standing or instructor permission. *(N, S, CTGIS)*

ESS-410 Water Resources II *(3 credits)* This is an advanced hydrology course aimed at furthering the students understanding of the complex interactions of the hydrologic cycle. Particular emphasis will be placed on mathematically modeling the process including precipitation, runoff, infiltration, soil moisture and stream flow. Prerequisites: ESS310 and MA130 *(QS, N, CTGIS)*

ESS-415 Fate & Transport of Pollutants *(4 credits)* The course is designed to provide an understanding of the physical, chemical, and biological processes that govern the distribution of contaminants through the environment, as well as the processes that are involved in the transformation or degradation of a contaminant. Knowledge of these processes is essential for designing pollution prevention, control,

monitoring, and remediation strategies, and for risk assessment. We will cover the distribution of pollutants in air, water, soil, and biological tissues, with particular emphasis on toxic organic pollutants.

ESS-445 Fishery Science & Management *(4 credits)* This course is a survey of the elements of fisheries science and management including the biology, ecology, management, and conservation of fisheries and aquatic resources. Emphasis is on whole ecosystem approaches to ecology and management of inland freshwater fisheries of North America and associated habitats. Prerequisites: BI-101 or BI-105. *(H, N, QS)*

ESS-450 Environmental Research *(1-6 credits)* An independent research experience that includes the preparation of a research proposal. Students present research results during weekly meetings with instructor. A research paper is the end point of the research experience. Presentation of results at national meetings is encouraged. May be repeated for up to 15 credits. Prerequisite: ESS100 and ESS300 and permission of the instructor. *(S)*

ESS-460 Coastal Zone Management *(3 credits)* Taught in India. This course will cover the current legal status, international treaties, state and central government coastal zone management regulations, and the history and current status of conflict and the attempts to overcome that conflict in India. This includes shrimp farming, over fishing, pollution, shipping, oil spills changes in beach morphology and coastal topography from weirs dams, etc. Prerequisites: GL111 and ESS100. *(S)*

ESS-490 Env. Science & Studies Internship Internship *(1-9 credits)* May be repeated up to a total of 9 hours of credit. Must have instructor permission and sophomore, junior, or senior standing. Corequisite: ESS-495. *(N)*

ESS-495 Internship Seminar *(1-6 credits)* Requires students to reflect on experience and/or pursue relevant research. Corequisite: ESS-490. Must have permission and sophomore, junior, or senior standing. *(N)*

ESS-499 Special Topics *(1-4 credits)* Allows the departments to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

ESS-INS Independent Study *(1-4 credits)*

ESS-TUT ESS Teaching Assistant *(1-3 credits) (N)*

FRENCH (FR)

FR-110 French I *(3 credits)* Emphasizes the four communicative skills (speaking, reading, writing, and listening) focusing on the context of everyday life. *(H, I, SW-GE)*

FR-120 French II *(3 credits)* In addition to learning and practicing basic communication skills in French, students will study some of the cultural foundations and practices of the French-speaking world. Instruction is entirely in French. Pre-Req: FR-110. *(H, I, CS, SW-GE)*

FR-210 French III *(3 credits)* This is the third course in a the three-semester sequence of beginning and intermediate French. Students will learn and practice more advanced grammatical structures and vocabulary to communicate more spontaneously and fluently with other speakers of French. PRE-REQ: French 120 or equivalent. *(H, I, CS, SW-GE)*

FR-230 Conversation *(3 credits)* This course focuses on developing the speaking and listening skills of students of French. Students will acquire the language structures and vocabulary to interact with fluent or native speakers of French on a variety of topics without strain for either party. PRE-REQ: FR 210 or equivalent. *(H, I, CS, SW-GE)*

FR-237 Intermediate French Grammar *(3 credits)* This course, which is instructed in French, serves to reinforce the fundamental grammar that students have studied previously, to introduce new grammar content, and to delve more deeply into grammar topics. Students will study grammar rules and guidelines and will also contextualize and understand them through a look at real-world use of language structures. As they study a formal language system, students will use deductive and inductive reasoning to predict which forms are correct. They will also work to improve their ability to communicate and interact effectively in French. Intermediate French proficiency strongly recommended. *(WK-FR)*

FR-260 French Civilization and Culture I *(3 credits)* An overview of the French culture and civilization in language, art, literature, history, and ideas. Prerequisite: FR-210 or equivalent. *(H, I, CS, SW-GE)*

FR-270 French Civilization and Culture II *(3 credits)* An in-depth introduction to the history and influence of French culture outside Europe. Students will gain a general knowledge of contemporary Francophone cultures that exist throughout the world. Prerequisite: FR-210 or equivalent. *(H, I, CS, SW-GE)*

FR-279 Sexuality and Literature *(3 credits)* This course uses literary texts as a critical lens to analyze and critique sexual ethics in different cultural and historical contexts or situations. The course is conducted as a seminar with entertaining, thought-provoking reading assignments and lively classroom discussions. No knowledge of the French language is required to enroll in this course. *(I, H, CA, SW-ER)*

FR-287 African Migrant Experience *(3 credits)* This course examines the question of the American experience of Sub-Saharan African migrants, how the US experience impacts their identity, and issues/challenges of diversity through selected works by Sub-Saharan African authors. We will explore following questions: What can the selected works tell us about the dimensions of diversity and immigration in social, cultural, political, or historical contexts to understand the lived experiences of African migrants within the United States? How does diversity shape the US experience and engage us as a society in fostering/resisting individual and collective wellbeing? Instruction is in English. Pre- or Corequisite: FYC-101. *(SW-US)*

FR-299 Special Topics *(1-4 credits)* Allows departments to offer subjects not normally taught. Prerequisites and fees vary by topic.

FR-326 French Cinema *(4 credits)* An overview of the history of French Cinema and various schools of film analysis. Participants in this course view and analyze major examples of French cinema from its origins to today. Discussions are in English. Papers may be written in English or French. *(F, I, H, CW, CA)*

FR-331 The Craft of Translation *(3 credits)* This course introduces high-intermediate and advanced students of French to the formal technics and art of written translation. Students must have completed two 200 level courses taught in French or have instructor permission prior to enrollment. *(H, I, CW, SW-GE)*

FR-345 Women in French Culture *(3 credits)* An introduction to the major currents of contemporary French feminism. All readings are in the translation and discussions are in English. *(CA, I, H, CW)*

FR-399 Special Topics *(1-4 credits)* Provides courses not covered by the regular offerings. These are developed to meet the needs of students of advanced standing and included themes in Medieval & Renaissance Literature and French Women Writers.

FR-450 Research Project in French *(3 credits)* An independent research project or thesis which will be designed by the student with the assistance of the instructor. Throughout the semester, the student will research his/her topic and submit a final paper or thesis to be defended at the end of the semester Prerequisites: three 300 level French courses and permission, or a year of study abroad and permission. *(H, I, CS)*

FR-490 French Internship *(1-9 credits)* See Catalog. Corequisite: FR-495. Requires permission and sophomore, junior, or senior class standing.

FR-495 Internship Seminar *(1-6 credits)* See Catalog. Corequisite: FR-490. Requires permission and sophomore, junior, or senior class standing.

FR-499 Special Topics *(1-4 credits)* Allows the department to offer subjects not on the normal schedule. Prerequisites vary by title.

FR-INS Independent Study *(1-4 credits)* See description in catalog.

FR-TUT French Teaching Assistant *(1-4 credits)* See catalog for description. *(H, I)*

FIRST-YEAR COMPOSITION (FYC)

FYC-101 First-Year Composition *(4 credits)* First-Year Composition focuses on developing critical reading, writing, and analytical skills. Course themes will be chosen by individual instructors. FYC courses follow a process-oriented approach to college work and include peer review, individual conferences with the instructor, and revision cycles. FYC courses will introduce students to different types of reading and writing using varied models, genres, and forms (such as popular, scholarly, digital, and print). The courses build students' information literacy skills, rhetorical knowledge, critical thinking, and knowledge of appropriate genre and style conventions. FYC courses focus on developing these skills to prepare students for future academic work.

FYC-188 First-Year Composition Writing Lab *(1 credits)* First-Year Composition Writing Lab is a 1-credit course that runs from the beginning of the semester through midterm. It is designed to guide students who have not yet completed FYC through the completion process. Students enrolled in the course will meet weekly with a writing faculty member and writing associates who will support students in their writing process, developing a plan, and completing writing tasks to fulfill the learning outcomes from their FYC course. Instructor permission required.

FYC-199 FYC Special Topics *(1-4 credits)* Special topics course in First-Year Composition.

FIRST-YEAR FOUNDATIONS (FYF)

FYF-101 First-Year Foundations *(1 credits)* First-Year Foundations is a one-credit course that provides students with the resources, skills, and information that will assist them in mastery of academic and social

life at Juniata College. Students will "think about who you are": What does it mean for students to be in college, at this place, at this time? What are their goals for the future?

FYF-199 First-Year Foundation Special Topic *(1-4 credits)* For FYF special topics courses

FYF-400 Peer Facilitator Seminar *(1 credits)* What kind of leader will you be? We seek to nurture empathetic and supportive leadership skills in each student teaching a First-Year Foundations section. This support course prepares students to lead discussions, understand student concerns and needs, plan engaging interactions, and reflect on their teaching experience. We meet once a week throughout the Fall semester in support of First-Year Foundations Peer Facilitators. Students must be hired as an FYF Peer Facilitator in order to enroll in this course, which is a job requirement for Peer Facilitators. Instructor permission required. Prerequisite: FYC-101. *(SW-LE)*

FYF-TUT First-Year Foundations Facilitator *(1-4 credits)*

FIRST-YEAR SEMINAR (FYS)

FYS-102 First-Year Seminar *(3 credits)* FYS is an introduction-by-immersion to college- level learning. Seminar topics are chosen by individual instructors. Students develop the intellectual skills of analyzing evidence and arguments by examining issues such as what counts as evidence, what makes arguments strong or weak, and common errors in reasoning.

FYS-INS First-Year Seminar Independent Study *(1-4 credits)* For independent studies under the First-Year Seminar subject prefix.

FYS-TUT First-Year Seminar Teaching Assistant *(1-4 credits)* See catalog.

GENERAL EDUCATION (GE)

GE-101 Local Engagement Seminar *(1 credits)* This course should be taken with a co-curricular community-engaged learning (CEL) experience that has been registered and approved in advance. During the seminar, we will examine theory related to understanding citizenship and civic life in the 21st century and discuss challenging questions related to social change, as well as principles and strategies for responsible and ethical engagement with communities. Graded on a satisfactory/unsatisfactory grade scale. *(SW-LE)*

GE-INS General Education Independent Study *(1-4 credits)* Independent study course in General Education

GEOLOGY (GL)

GL-001 Non-Credit Geology Internship *(0 credits)* Provides student an overview of an organization as well as providing an opportunity for practical application of the skill developed in students' area of concentration. Note: See the chapter on "Special Programs" under Internships; listed as Internship: (Title); must be 6 weeks long. Prerequisite: Permission.

GL-100 Intro to Physical Geology *(3 credits)* An introduction to the principles and methods of geology. Emphasis is placed on the geologic forces at work in our physical environment. Topics covered include internal processes such as volcanism, earthquakes, mountain building and the flow of groundwater as well as external processes such as landslides, flooding, erosion and landscape formation. Emphasis is given to the interaction of human activities with these physical processes as well as the processes themselves. *(N)*

GL-100A Environmental Geology *(3 credits)* Student perceptions of what constitutes geology have shifted. Contemporary students need to be made aware that geology IS the study of the physical environment of the earth and that a central part of what geologists do entails an exploration of how humans and the built environment both affect and are affected by the earth's physical/environmental system. While our previous title and description for this course, Introduction to Physical Geology, carried these implicit understandings, we find it important now to draw students' attention explicitly to the environmental character of our study of Earth. *(N)*

GL-101 Physical Geology Lab *(1 credits)* This course provides opportunities to study geology in the laboratory and field. Concepts and methods covered in the lecture are reinforced. Specifically covered are mineral and rock identification, map interpretation and study of examples of earth processes from maps and in the field. Some field trips are required and a special fee is assessed. Corequisite or Prerequisite: GL100A. *(N)*

GL-105 World Regional Geography *(3 credits)* A survey of the world's major cultural realms. Included are geographic setting, resources, environmental restrictions, historical and cultural traditions, industrial and agricultural development, economic base and trends, population distribution and political subdivisions. *(N, I)*

GL-111 Oceanography *(3 credits)* A survey of the physical, chemical, biological and geological environments of the ocean. Included are sea floor topography, composition and circulation of sea water and the life existing in the oceanic environments. Field experience is offered and a special fee is assessed. *(N)*

GL-114 Catastrophe *(3 credits)* This Scientific Process course explores the geological processes and hazards that lead to large and destructive natural disasters. Students will explore and work with interdisciplinary scientific data to understand the importance and societal relevance of earth processes in everyday decision making. Pre-req: FYC-101 or EN-110 or EN-109. *(N, WK-SP)*

GL-123 Expedition: Earth *(3 credits)* This course explores the full range of geologic studies through weekly meetings in the spring semester to prepare for a two to three-week field expedition in May-June. The field trip is supported by the Geology Alumni Field Trip fund. Each year, the class will travel to a different region in the US or internationally.

GL-126 Environmental Geochemistry *(3 credits)* This course will introduce fundamental geologic process through a geochemical lens. Basic geochemical reactions involving water-rock interactions at both high and low temperatures will be considered. The class will focus on the environmental problems in atmosphere and continents. *(N)*

GL-130 Introduction to Soils *(4 credits)* Introduction to Soils is an experience-driven overview of the most important distinctions among soils and to the factors that contribute to agricultural productivity of soils. Through in-class activities students will learn to be observers of soil characteristics, and will come to understand soil as the interface between the worlds of rocks, plant and animal life, the water cycle and the

atmosphere. Attention will be drawn to natural and disturbed soils, and soils' role in global health. No prerequisites. *(N)*

GL-172 Geology of National Parks *(3 credits)* A Scientific Process course that explores geological processes that formed the landscape of the United States through the lens of our national parks. Students will learn how to read, use, interpret, and collect earth science data to approach scientific problems and public policy decisions. Field trip to National Park required unless course is taken online; special fee assessed for field trip. PRE-REQ: FYC 101. *(N, WK-SP)*

GL-199 Special Topics *(1-4 credits)* An examination of an area not regularly studied in the departmental offerings. Examples have been Geomorphology, Petroleum Geology, and Case Studies in Environmental Geology. Note: abbreviate ST: (title) students may take each ST: Course for credit.

GL-204 History of Earth *(4 credits)* This course examines the history of the planet Earth since its origin to the present day and the methods that geologists use to uncover that history. The course includes specific consideration of the social context of geosciences, and ways that art and science have contributed to human understanding of Earth. Pre-req: FYC-101 or EN-110 or EN-109 *(N, WK-SP)*

GL-210 Minerals *(4 credits)* This course explores the building blocks of the Earth: minerals. Students will master mineral identification in hand-specimen and by optical microscope methods to conduct scientific inquiry. Emphasis is placed on mineral classification, crystal structure, chemical composition, physical properties, and stability. We also investigate the role of minerals in society and public policy. A lab fee is assessed. Pre-req: FYC-101 or EN-110 or EN-109. *(N, WK-SP)*

GL-213 Minerals, Economics, Politics and Law *(3 credits)* Introduces mineral deposits and examines the distribution and exploitation. Explores historical patterns in mineral resource utilization and considers the extractive industries in the context of economic patterns and government policies. Emphasizes the potential for conflict resulting from the uneven distribution and exploitation of mineral wealth. Note: some field trips are required. (A Peace and Conflict Studies course.) Note: this course does not fulfill the distribution requirement in science. *(I)*

GL-215 Energy, Minerals & Society *(3 credits)* Twenty-first century societies run on the twin nutrients of abundant energy and the mineral resources needed to fashion technological devices. While both energy and mineral commodities are subject to wildly oscillating demand as economies alternately flourish and falter, the global demand for all such commodities has shown inexorable growth since the onset of the industrial era. Globalization has increased this rate of growth. But, extraction and use of resources invariably alters landscapes and releases pollutants into the environment. How adequate are supplies? How can they be used with minimal adverse impact? To what extent can impacts be managed by use of alternative energies, by recycling, by conservation? These topics are the focus of this course. *(N)*

GL-240 Geological Field Methods I *(4 credits)* This course is an introduction to the geology of the Appalachians through teaching geologic methods in the field. The course will focus on developing field practice and using the information collected in the field to construct a scientific document. The course is composed of 8 local field trips and 1 extended field trip as well as many classroom exercises. *(N, CW, CTGIS)*

GL-299 Special Topics *(1-4 credits)* An examination of an area not regularly studied in the departmental offerings. Examples have been Geomorphology, Petroleum Geology, and Case Studies in Environmental Geology. Note: abbreviate ST: (title). Students may take each ST: course for credit.

GL-300 Petrography *(4 credits)* The petrographic examination of rocks in hand specimen and under the microscope. Identification of the principal types of igneous and metamorphic rocks and discussion of their chemical and mineralogical characteristics and tectonic setting is emphasized. Note: one laboratory per week, one or two major field trips are required, and a special fee is assessed. Prerequisite: GL210. *(N)*

GL-304 Paleobiology of Invertebrates *(4 credits)* Basic principles of paleontology and functional morphology of extant and extinct invertebrates are covered. These include identifying fossils and understanding their morphology and preservation in order to interpret ancient environments. Note: One laboratory per week and field trips are required and a special fee is assessed. *(N)*

GL-305 Hydrogeology *(3 credits)* The study of the natural occurrence of water. Topics include: the hydrologic cycle, precipitation, stream flow, soil moisture, ground water occurrence, aquifer flow and testing chemical characteristics, contamination, development and management of ground-water resources. *(N)*

GL-307 Geophysics *(3 credits)* This course is an introduction to how geophysical data can be used to address academic and applied problems in geology. Emphasis is placed on the concepts behind acquiring geophysical data and use of the information for interpretation. Seismology, magnetism, heat and gravity are the main concepts covered. Prerequisites: GL202. MA130 may be taken as prerequisite or corequisite. There are two field trips run over the weekend where students get to use the equipment in the field and reduce the data. A special fee is assessed. *(N)*

GL-310 Structural Geology *(4 credits)* The study of the deformation of the earth's crust. Field relationships, form, symmetry, and geometry of earth structures are stressed. Concepts of kinematic and dynamic analysis are presented so students are better prepared to interpret the origin of earth structures. Prerequisite: GL-100A or GL-204 or GL-240. *(N)*

GL-325 Intro to Soil Science *(4 credits)* Introduction to Soil Science is a comprehensive overview of soils, their characteristics, their origins, their importance to agriculture, construction and waste disposal, and of the factors that contribute to maintenance of soil quality or to its degradation in use. Theoretical concepts will be supported by laboratory and field study of soils, soil forming processes, and soil-water-rock-biotic interactions; training will be provided in techniques of field sampling and characterization of soils. A special lab fee is assessed. Prerequisites: GL100 & GL101 & CH105. *(N)*

GL-350 Geol. Research Methodologies *(2 credits)* Aims to elucidate the science research process and the science infrastructure to the student. The course introduces students to research practice, analysis and writing. The course also requires students to prepare a research proposal. Students will also discuss more theoretical aspects of research: epistemology, the scientific method, multiple working hypotheses, erecting and testing hypotheses, and the scientific infrastructure. This course is designed for junior level geology students. Prerequisites: Permission of the instructor.

GL-389 Geology Professional Seminar *(1 credits)* Provides guidance and preparation to Junior class level Geology students in relation to their post-Juniata plans. Topics include resume writing, strategies involved in a job or graduate school search, preparation for credentialing exams, preparation for interviews, and networking. Prerequisite: Junior or Senior standing.

GL-399 Special Topics *(1-4 credits)* An examination of an area not regularly studied in the departmental offerings. Examples have been Geomorphology, Petroleum Geology, and Case Studies in Environmental Geology. Note: abbreviate ST:(title). Students may take each ST: course for credit.

GL-400 Petrology of Igneous and Metamorphic Rocks *(4 credits)* Analyzes the processes of magma generation and crystallization under equilibrium and disequilibrium conditions in the context of igneous phase equilibria and geologic setting. Considers the re-crystallization of pre-existing mineral assemblages in the metamorphic environments and examines metamorphic conditions by interpretation of facies assmeblages and petrogenetic grids. Note: one laboratory per week; a major field trip is required and a special fee is assessed. Prerequisite: GL 300. *(N)*

GL-401 Sedimentology *(4 credits)* Focuses on the origin of sediments and sedimentary rocks. Included are sedimentary processes, depositional environments, post-depositional influences and sedimentary rock classification. Principles and methods of study including petrographic analysis are emphasized. Note: one laboratory per week, field trips are required, including a weekend trip, and a special fee is assessed. Prerequisite: GL202. *(N)*

GL-405 Principles of Stratigraphy *(4 credits)* Includes the description of sedimentary rocks in the stratigraphic column, methods of correlation, interpretation of the origin of rock units and the historical and philosophical development of the geologic time scale. Note: one laboratory per week, field trips are required and a special fee is assessed. Prerequisite: GL-204. *(CW, N)*

GL-414 Geologic Research Method *(3 credits)* The course focuses on exploring geologic research method development, data collection and management, data interpretation and professional presentation of scientific information.

GL-440 Geological Field Methods II *(4 credits)* The course covers advanced geologic mapping of the Appalachians. It will focus on constructing geologic maps and cross-sections to develop an understanding of the rock record, geologic time, and the processes by which geologists reconstruct ancient tectonic and sedimentary events. The course is field based. Prerequisites: GL 240. Note: A special course fee will be applied. *(N)*

GL-450 Geological Research *(1-6 credits)* The field or laboratory investigation of a specific geologic problem. Methodology and principles of interpretation are necessary for the successful completion of the course and a final report must be submitted. Student's specific research topic will be the title of the course on the student's transcript. May be completed multiple times for credit. Prerequisite: permission of Geology faculty member. *(N)*

GL-490 Geology Internship *(1-9 credits)* Corequisite: GL-495. Requires permission and sophomore, junior, or senior class standing. *(N)*

GL-495 Internship Seminar *(1-6 credits)* Requires students to reflect on the internship experience and/or pursue research related to the placement. Corequisite: GL-490. Requires permission and sophomore, junior, or senior class standing. *(N)*

GL-INS Geology Independent Study *(1-6 credits)*

HEALTH PROFESSIONS (HP)

HP-001 Health Professions Non-Credit Internship *(0 credits)*

HP-175 Healthcare Career Exploration *(1 credits)* This course aims to help students learn about careers in healthcare. Students will develop an appreciation for the healthcare industry and an understanding of the

skills, education, and experience required for various healthcare careers. Students will have the opportunity to refine their interests through conversations with professionals and to discern what healthcare career may suit them.

HP-199 Health Professions Special Topics *(1-4 credits)* 100-level special topics courses in the Health Professions program.

HP-210 Culture & Care I: Global Health Insights *(1 credits)* This two-course series (HP-210/211) explores healthcare in a global context. The pre-departure course discusses healthcare delivery, access, and disparities outside the United States. It examines how culture, history and environment influence healthcare systems and practices globally. The summer term course includes travel to southern Mexico, where faculty and students from the Autonomous University of Chiapas (UNACH) will help students gain first-hand insight into this region of Mexico's communities' healthcare access, systems and cultural influences. The trip includes visits to local healthcare sites as well as culturally significant locations. Requisite: FYC-101 must be taken prior to or at the same time as HP-210. NOTE: This is a two-course series, with students earning 1 credit in the spring semester for the predeparture course, and 2 credits in the summer term for the trip to Mexico. The total fee for the experience is split between the two courses in the series, with the majority of the fee on the spring semester billing and a $250 administrative fee on the summer term billing. *(SW-GE)*

HP-211 Culture & Care Ii: Global Health Insghts *(2 credits)* This two-course series (HP-210/211) explores healthcare in a global context. The pre-departure course discusses healthcare delivery, access, and disparities outside the United States. It examines how culture, history and environment influence healthcare systems and practices globally. The summer term course includes travel to southern Mexico, where faculty and students from the Autonomous University of Chiapas (UNACH) will help students gain first-hand insight into this region of Mexico's communities' healthcare access, systems and cultural influences. The trip includes visits to local healthcare sites as well as culturally significant locations. Prerequisite: HP-210. NOTE: This is a two-course series, with students earning 1 credit in the spring semester for the predeparture course, and 2 credits in the summer term for the trip to Mexico. The total fee for the experience is split between the two courses in the series, with the majority of the fee on the spring semester billing and a $250 administrative fee on the summer term billing. *(SW-GE)*

HP-235 Medical Terminology *(3 credits)* Medical terminology is the study of the principles of medical word building to help the student develop the extensive medical vocabulary used in health care occupations. Students receive a thorough grounding in basic medical terminology through a study of root words, prefixes, and suffixes. Upon successful completion of the course, students will be able to comprehend a medical record report, communicate among medical professionals, and have a high-level overview of medical terms. This course will serve as a prerequisite to medical programs such as nursing, therapy, occupational therapy, physician assistant, etc.

HP-299 Health Professions Special Topic *(1-4 credits)*

HP-300 Health Navigator Practicum *(2-3 credits)* The Health Navigation Practicum combines both lecture and experiential learning to expose students to health care delivery, social determinants of health and patient navigation. This course is open to juniors and seniors only. An interview with the instructor is required before admission. *(SW-LE)*

HP-370 Health Career Preparation Seminar *(1 credits)* This seminar is recommended for students aspiring to a career in health professions and starting application preparation for professional school. Recommended

to be taken in the junior year or one full year prior to professional school application. Must be junior or senior class level. Students who are not health professions students need instructor consent.

HP-490 Health Professions Internship *(1-9 credits)* Health Professions students may apply their acquired skills and knowledge to on-the-job internships. Corequisite: HP-495. Requires permission and sophomore, junior, or senior class standing.

HP-495 Internship Seminar *(1-6 credits)* In addition to the on-the-job experience provided by the internship, students are required to pursue research related to their placement. An in-depth research paper or presentation is completed during the semester. Corequisite: HP-490. Requires permission and sophomore, junior, or senior class standing.

HP-INS Health Professions Independent Study *(1-4 credits)*

HISTORY (HS)

HS-001 Non-Credit History Internship *(0 credits)* Provides students an overview of an organization as well as providing and opportunity for practical application of the studnets' area of concentration. Note: See the chapter "Special Programs" under Internships; listed as Internship(Title); must be 6 weeks long. Prerequisite: Permission.

HS-104 Medieval Europe *(4 credits)* This course will examine the history of Western Europe from the Roman Empire to approximately 1450. This 1000-year period was the setting for both large and small changes in the way people in Europe thought about themselves, governed each other, and lived everyday lives. During the course, we will follow a chronological timeline, but we will frequently stop, look, and enjoy the scenery. Pre- or Co-Req: FYC-101 or EN-110 or EN-109. (Formerly titled: European History to 1550) *(H, I, WK-HT)*

HS-107 History Book Club *(1 credits)* All over the world, people enjoy coming together as a small group to discuss the books they have read in common. This low-pressure class (one credit, graded satisfactorys/unsatisfactory) gives us a chance to participate in our own book club. We will focus on history books that do not require specialized knowledge of any particular field.

HS-115 United States to 1877 *(4 credits)* Concentrates on the broad sweep of U.S. history from colonial beginnings through Reconstruction using a variety of perspectives and sources. The ideas and realities of freedom shape nearly every part of our lives. How did this develop in the United States from its earliest European settlements to the aftermath of the Civil War? HS-115 focuses on this central theme of freedom - how people have defined and pursued it, as well as expanded and restricted it, in different places. You will also learn how to analyze primary sources (those created during the time period under study)and apply a historical perspective to issues that shape your life today. Pre- or co-requisite: FYC-101. *(H, SW-US)*

HS-116 The U.S. Since 1877 *(4 credits)* This course uses original documents to explore major themes of US history since 1877, to examine the consequences of actions taken at the national and local level through a lens of ethical responsibility. Pre- or co-requisite: FYC-101. *(H, SW-ER)*

HS-152 World History Since 1450 *(4 credits)* This course will trace the development of world civilizations from the 16th century to the present. Pre- or co-requisite: FYC-101. (Previously titled: World Civilizations From 1500) *(H, I, SW-GE)*

HS-199 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

HS-200 The Great War *(4 credits)* This class is a social, cultural, and political history of a global conflict that reshaped the twentieth century. Throughout the semester we will seek to understand what it was like for soldiers and civilians from many parts of the world to live thought this war. Pre- or Co-Req: FYC-101 or EN-110 or EN-109. *(I, H, CW, WK-HT)*

HS-204 Australia/New Zealand *(4 credits)* This course is a comparative introduction to the history of New Zealand and Australia. We will begin the course by studying the indigenous people of the region: Australian Aborigines in Australia and Maoris in New Zealand, before moving to think about the arrival of white settlers. During the semester, we will pay particular attention to the process of colonization and dispossession, race and gender relations, the search for national identity, popular culture, and politics in the two countries. *(I, H)*

HS-208 Engineering, Empire, and the Environment *(3 credits)* This course will challenge students to consider how engineering projects undertaken across the British empire shaped ecosystems on land, in the air, and on water. The class will also reflect on the social and health consequences to local populations and the legacy of imperial British engineering. Pre- or Co-Requisite: FYC-101 or EN-110 or EN-109 *(WK-HT)*

HS-213 History of Ireland *(4 credits)* This course is an introduction to the history of Ireland, beginning with an overview of the early history. We will explore the Tudor revolutions, English colonialism, the question of identity in the island, Irish Republicanism. home rule movements, the partition of Ireland, and the "troubles" in the North of the island of Ireland. Pre-Req: FYC-101 or EN-110 or EN-109 *(H, WK-HT)*

HS-215 Rome: Republic to Empire *(4 credits)* People through history have imagined Rome in different ways, and it conjures up lots of different images for us: civilization; barbarism; conquest; freedom; slavery; technology; virtue and vice. In this course, we will explore the period between the founding of Roman civilization and the year 325 A.D., examining what the Romans thought and said about themselves and what they mean to us today. *(H, WK-HT)*

HS-216 Civil Rights & Song *(3 credits)* This course examines the Civil Rights Movement (1950s-1960s) and its roots that stretch back more than a century. In particular, this course focuses on the role of music in the civil rights movement. How do the songs help us understand the events, feelings, actions, and beliefs that comprise the African struggle for freedom? How does the social, political, and cultural context help us understand the music that was created and performed during this period? *(F, H, CS, CW)*

HS-217 The Lowcountry and the Gullah Culture *(3 credits)* The course examines the origins and development of the Gullah Geechee cultures of the Lowcountry. How did these members of the African diaspora develop a creole culture within the profound and brutal limitations of slavery, and how did they sustain it and change under Jim Crow and into the climate and development challenges of the present? *(H, CA, SW-US)*

HS-222 Archives: Theory, Practice, and Use *(2 credits)* This team-taught course provides an introduction to archives by covering their different types and purposes, archival practices, and the use of archives by researchers. The course will involve readings, discussion, hands-on experiences, and a field trip. This course also serves a crucial role in the orientation to, and skill development for, the larger Secondary Emphasis and certificate in Rural Poverty Studies.

HS-262 North American Environmental History *(3 credits)* Our troubling relationship with the natural world might well be the most important issue human societies will face in your lifetime. HS-262 examines one root of this relationship: how and why we have shaped, and been shaped by, different North American

environments over time. Through discussion, lectures, readings, and films, we will examine the social, cultural, economic, and political spheres of these human activities since the fifteenth century. *(H)*

HS-266 History of South Africa *(4 credits)* This course covers the history of South Africa from the 17th century to the present. We will focus our attention on specific themes, including imperialism, race and ethnicity, crime and punishment, resistance to apartheid, and the limits of forgiveness. The class will be taught inside SCI Smithfield. This Inside-Out Course is an opportunity for a group of students from Juniata College and an equal number of students from SCI Smithfield to learn together and to exchange ideas and perceptions about the history of South Africa. Bringing incarcerated and non-incarcerated students together for engaged and informed dialogue allows for transformative learning experiences that facilitates an exchange of ideas in a dialogic format. Instructor permission required for all students. *(I, H)*

HS-268 Sword & Scimitar: Islam & West 500-1300 *(3 credits)* When discussing culture in a historical context, we must be careful to avoid the stereotypes that may leap to mind. In the twenty-first-century United States, the mention of Islam or the Near East provokes stereotypes that are inaccurate and misleading. In this course, we will learn about the early history of Islam and its intersection with western Christianity and the society of the European Middle Ages. In doing so we will discover the similarities and differences between the cultures and learn (modern prejudices notwithstanding) how they depended on one another both culturally and economically. *(SW-GE)*

HS-272 Natives & Colonists in Early N. America *(4 credits)* Love, hate, fear, confusion, respect, admiration, wonder: these are just some of the powerful feelings that infused the relationships between Native Americans and European colonists, and that shaped the history of North America from about 1500 to the eve of the American Revolution. Through extensive discussion, reading, writing, and a role-playing game, HS-272 will help you understand relationships that still affect American society today. *(H, CW, SW-US)*

HS-277 History of Food *(4 credits)* This course will take a transnational view of the history of food from the Middle Ages to the twenty-first century. We will examine food as a part of human experience including its roles as sustenance, commodity, cultural artifact, signifier of identity, and art. While the early emphasis of the course will be on the Atlantic World and the global exchange of foods and cooking techniques, particular attention will be on the United States' regional cuisines and food movements. The course will use scholarly texts, films, field-trips and will require some cooking and tasting of food on some evenings. Prerequisites: Sophomore Standing. Note: There is a fee assessed on this course. *(H)*

HS-280 Victorian Science, Sexuality & Medicine *(4 credits)* This class is designed to be the entry-level course to the Medical Humanities Secondary Emphasis. This means it will interest pre-health students and is suitable for all first-year students. Over the course of the semester, we will investigate the changing meanings and entanglements of Victorian science and medical practice through the lens of class, gender, and race. We will examine ideas about the body and disease, the changing role of medicine, the importance of new technologies, and the social construction of scientific and medical knowledge. Pre- or Co-Req: FYC-101 or EN-110 or EN-109. *(WK-HT, H)*

HS-293 Sophomore Colloquium *(4 credits)* This colloquium exposes students to employment opportunities available to them through the study of history. It focuses upon the development of the skills necessary for success in the history classroom. The Sophomore Colloquium is designed for students with strong interest in history, including education students and students with secondary emphases in history. Pre-requisites: sophomore standing and two courses in History or permission of the instructor. *(H, CW)*

HS-299 Special Topics *(1-4 credits)* Offers supplements to the regular departmental program, exploring topics and areas not regularly scheduled. Note: Students may take each ST: course for credit.

HS-309 Civil War and Reconstruction *(4 credits)* Examines the political, social, military, economic and ideological origins and consequences of the Civil War and Reconstruction. The course looks deeply into several important questions. What caused the Civil War? Why was the Union victorious? Why did the war proceed as it did? What was the nature and legacy of reconstruction? What does this period in our history mean to us now? Prerequisites: HS115 or HS116 and SO, JR, or SR standing. *(H, CW, CTDH)*

HS-312 The New South: 1877-1990 *(4 credits)* This seminar will cover the years 1877-1900 and explore the themes on the cultural, political, economic and social history of the U.S. South. Among the important questions covered in the class are: What is the South? How did the South change through significant events such as the Populist movement, the rise of Jim Crow, the Great Depression, the second World War, economic development, and the Civil Rights movement. We will ask how the South's arts, especially music, reflect its history and culture. Prerequisites: HS116 or permission of the instructor. *(H)*

HS-313 Disease, Medicine, and Empire *(4 credits)* What can the study of the history of medicine tell us about the nature of rule and the politics of race in European empires? How did medical theories of disease and healing shape ideas about colonial enrivonments, populations, bodies, and racial differences in the imaginations of European colonizers? How did medicine and science function as tools of colonial domination and as part of broader "civilizing" projects, and what were the limits of such efforts at social control? Can the study of medical reforms and everyday life shed light on how colonial subjects conceptualized, challenged, and defined their own positions in the social order? Prerequisite: FYC-101. *(CA, I, H, SW-GE, CTGES)*

HS-314 Medieval Medicine *(4 credits)* Despite our popular understanding of the European middle ages as a dirty, disease-ridden, hopelessly backward period, the sources show us quite a different picture. Although a lack of understanding of the means of genetic change and the cause of viral and bacterial disease caused medieval people to understand the human body very differently than we do, that system was not without its logic and efficacy. This course will explore the human body and its diseases in the middle ages through a series of connected readings that introduce the body as a conceptual system and medieval science's attempts to understand it. We will then look at the growing field of genomic research as a way of understanding and comparing our modern systems of understanding the body. Prerequisite: FYC-101 or EN-110 or EN-109. *(H, CW, SW-GE, CTGES)*

HS-317 Medicine in World War I *(4 credits)* The class will explore the challenges faced by medical professionals during the First World War by looking at the medical innovations that emerged over the course of the war; the impact of violence, disease, and dislocation on civilian populations; and the enduring changes in medical practices following the war. Prerequisite: FYC-101. *(SW-ER)*

HS-319 Glorious Cause: Amer. Revolutionary Era *(4 credits)* At the start of the War of Independence, General George Washington called the defense of American liberties the "glorious cause." This course examines central questions such as: What caused the American Revolution? How did the United States win the War of Independence? What resulted from the American Revolution? Prerequisite: FYS-102. *(H)*

HS-320 Interpreting Terrorism *(4 credits)* You have grown up in a world shaped by terrorism. How did this happen? What is terrorism, how has it developed, and how have people responded to it? In this course, we will analyze (interpret) terrorism from different directions: its many definitions, its general history beginning with the French Revolution, and the many ways in which people have responded to it. You will also dive into

specific topics and present (interpret) your research for a non-academic audience. It is important for us historians to communicate effectively. If we can broaden and deepen the public's understanding of, and appreciation for, the past, we enrich our society. You will learn how to convey your knowledge in a way that the public will find accessible, and even enjoyable or exciting. Course requirements include a field trip. Prerequisite: FYC-101 or EN-110 or EN-109. *(SW-ER)*

HS-322 Women in Medieval Life *(4 credits)* What did women do in the Middle Ages? What was it like to be a nun? Was anyone really a witch? By reading medieval women's own accounts and the accounts of people who knew (or claimed to know) them, we can learn a great deal. In this course we will look at various aspects of women's lives during the Middle Ages and try to answer as many questions as we can. While we're at it, we will have to examine medieval ideas of what it meant to be a man - ideas that, much of the time, were conceptualized as the opposites of ideas about women. The course is topical instead of chronological and is organized around themes and ideas. (Formerly titled: Women's Lives-Med Europe) *(H, CW, WK-HT)*

HS-325 The U.S. Since 1945 *(4 credits)* Covers the social, political and economic history since the Second World War. Themes include: the Cold War, suburbanization, the rise of consumer society, and more. Prerequisite: HS116. *(H)*

HS-363 Race, Power & Gender in Southern Africa *(4 credits)* This course is a survey of the history of southern Africa from the 17th century to the present that highlights the social, cultural, and economic dynamics of both African and settler societies. While the course encompasses the broader region of southern Africa, most of the readings will be drawn from the history of South Africa. We will focus our attention on specific themes, including race and ethnicity, gender, resistance to apartheid, and reconciliation. Prerequisite: FYC-101. (Formerly titled: Southern Africa) *(I, H, SW-GE)*

HS-367 Women in Africa *(4 credits)* This course will provide students with an understanding of women in sub-Saharan African cultures, their history, traditions, diversity, resilience and adaptability. To do this we will be looking at social structure, kinship networks, economic systems, gender relations, ethnicity and ethnic conflicts, traditional religion, the HIV/AIDS epidemic and other health issues. Prerequisite: FYC-101 *(CA, H, I, SW-GE, CTDH)*

HS-399 Special Topics *(1-4 credits)* Provides supplements to the regular departmental program, exploring topics and areas not regularly scheduled. Note: Students may take each ST: course for credit.

HS-490 History Internship *(1-9 credits)* Co-requisite: HS-495. Requires permission and sophomore, junior, or senior class standing. *(H)*

HS-492 Sr History Research/Seminar I *(3 credits)* Serves as a capstone experience that synthesizes materials from history and other disciplines into a substantial written thesis. The senior seminar can be done as an independent study or in conjunction with an internship. When completed the thesis is presented at a public oral defense. Prerequisite: Completion of all core courses and/or permission of instructor. *(H)*

HS-493 The Historian's Craft *(1 credits)* This course is a seminar-style introduction to historiography and a forum in which senior history students complete part or all of their senior thesis. Students taking the course are expected to work simultaneously with the course instructor, as well as a thesis advisor from within the history department. Students may select a member of the faculty outside the department as a secondary advisor if that complements their thesis topic. Students who elect to write a year-long thesis take HS496 in the Spring semester after taking HS493. Students from other departments who take the course will be

expected to complete a paper of comparable length to a senior thesis under the supervision of the course instructor. Prerequisites: One 300 level history course and Senior status. *(H, CW)*

HS-495 Internship Seminar *(1-6 credits)* Requires students to reflect on the internship experience and/or pursue relevant research. Requires permission and sophomore, junior, or senior class standing. Corequisite: HS-490. *(H)*

HS-496 Senior History Research/Seminar II *(3 credits)* If a student needs to work further on the senior thesis, this will allow three further hours of study. Prerequisites: HS493 and Senior standing. *(H)*

HS-499 Special Topics *(1-4 credits)* Allows departments to offer topics not normally taught. Prerequisites and corequisites vary by topic.

HS-INS Independent Study *(1-4 credits)* See catalog for description.

HS-TUT History Teaching Assistant *(1-3 credits)*

INFORMATION TECHNOLOGY (IT)

IT-001 Non-Credit IT Internship *(0 credits)* Provides students an overview of an organization as well as providing an opportunity for practical application of the skill developed in students' area of concentration. Note: see the chapter "Special Programs" under Internships;l listed as internship (Title); must be 6 weeks long. Prerequisites: Permission.

IT-105 Principles of Programming *(3 credits)* This course introduces the fundamental principles of programming. Initially, a visual programming language will be used to provide an introduction to algorithmic problem-solving. Then a web-based programming language will be used to illustrate programming language constructs. In addition, the ethical concerns of algorithmic bias will be explored, from the frame of Social Inquiry. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109 *(N, WK-FR)*

IT-110 Principles of Information Technology *(3 credits)* This course provides a context for further study in information technology. Topics include an overview of the fundamentals of information systems, current and emerging technologies, business applications, communications and decision making, and the impact of these systems on business, government, and society. This course will also emphasize the development of both writing and speaking skills through application of the concepts that define the course. *(S)*

IT-199 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

IT-210 Information Technology Systems *(4 credits)* This course introduces students to three core areas in Information Technology: networks, database and web. The course progresses through two phases during its study of modern IT environments. Initial study includes all the necessary components of today's IT system environment and its use in business. Secondly, students use a server based database development environment to create an IT system. Prerequisites: CS110. MA116 strongly recommended. *(N)*

IT-260 Human-Computer Interaction *(3 credits)* Human-Computer Interaction is a multidisciplinary field with the goal of bringing usability into the design process and to develop interactive products that are easy, effective, and enjoyable to use from a user's perspective. Human interaction with interfaces can be studied, designed, and evaluated. While HCI focuses on technology design, the user-centered design techniques can

be used in the creation of any product in all fields of study. Pre- or Co-Req: FYC-101 or EN-110 or EN-109 *(S, WK-SI)*

IT-298 Information Technology Practicum I *(1-4 credits)* Credit option for students who are applying their classroom theory from the department by working on information technology or digital media projects on campus or off-campus. Credit hours and level (298, 398 or 498) are dependent upon the extent of the project and will be determined by the professor. Available by permission only. *(S)*

IT-299 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

IT-304 Project Management Techniques *(3 credits)* This course provides project management skills to manage projects regardless of discipline. Through lectures, discussions, and hands-on exercises, students will learn state-of-the-art project management techniques as well as historical managing styles. In addition, there will be a focus on defining ethics and intercultural understanding in project management. Prerequisite or corequisite: FYC-101. *(WK-FR)*

IT-307 Project Management *(4 credits)* This course reviews and applies project management processes and techniques such as project life cycle, project selection methods, work breakdown instructions, network diagrams, cost estimates, and more. Prerequisite: IT-210. Pre- or Corequisite: FYC-101. *(S, CW, CS, SW-LE)*

IT-325 Network Design & Management. *(4 credits)* Focuses on the concept of the foundations of a network in both design and support. The OSI reference model will be examined along with techniques for supporting current technologies that align with each other. Emphasis will be placed on protocols, topologies and traffic analysis. Prerequisites: CS240 or IT210. *(N)*

IT-340 Web Design & Management *(3 credits)* A study of modern web page design along with the examination of markup and scripting languages (e.g., HTML, JavaScript), page, image and multimedia formats, and the techniques in developing and managing a web site. Page design, graphical user interfaces, interactive techniques and the importance of e-commerce are also emphasized. Prerequisite: CS-110 or IT-105.

IT-350 Security Engineering *(3 credits)* This course will focus on the area of computer security. Included will be information on attacks, prevention, as well as protection from non-malicious threats. It will look at network as well as web based security. A focus will be on creating secure computer environments from the ground up, not as an afterthought. Prerequisites: IT-210 and junior standing or permission of the instructor. *(N)*

IT-351 Security Engineering Lab *(1 credits)* This course is a laboratory course with hands-on activities to supplement the instruction given in the IT350, Security Engineering course. The lab activities will center on digital forensics, hacker exploits and protection techniques, penetration testing and vulnerability analysis. Co-requisite: IT-350.

IT-380 Innovations for Industry II *(4 credits)* This lab will require a team of students to function as a project development team for an IT-related business. The students will be exposed to many aspects of systems analysis, design, development and implementation, as well as project management tools and techniques. Students will be required to learn in a just-in-time mode using on-demand educational resources. Prerequisite: IT-307. *(S, CTGIS)*

IT-398 Information Technology Practicum II *(1-4 credits)* Credit option for students who are applying their classroom theory from the department by working on information technology or digital media projects on campus or off-campus. Credit hours and level (298, 398 or 498) are dependent upon the extent of the project and will be determined by the professor. Available by permission only. *(S)*

IT-399 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

IT-480 Innovations for Industry III *(4 credits)* This lab will require a team of students to function as a project development team for an IT- related business. The students will be exposed to many aspects of systems analysis, design, development and implementation, as well as project management tools and techniques. Students will be required to learn in a just-in-time mode using on-demand educational resources. Prerequisite: IT-380. *(S, CTGIS)*

IT-490 Information Technology Internship *(1-9 credits)* See Internship in the Juniata College Catalog. Corequisite: IT-495. Requires permission and sophomore, junior, or senior class standing.

IT-495 Internship Seminar *(1-6 credits)* See Internship in the Juniata College Catalog. Corequisite: IT-490. Requires permission and sophomore, junior, or senior class standing.

IT-496 Information Technology Seminar *(1 credits)* Discusses current advances in information technology not otherwise covered in our program such as, but not limited to, networking, artificial intelligence, societal issues. In addition, this course allows senior students to plan an individual research project to be completed in IT497. Prerequisites: Junior or Senior standing and IT210 or CS240. *(S)*

IT-497 Information Technology Research *(3-5 credits)* Allows students to carry out the independent technology research project as designed in IT496. Prerequisites: IT496. *(S, CW)*

IT-498 Information Technology Practicum III *(1-4 credits)* Credit option for students who are applying their classroom theory from the department by working on information technology or digital media projects on campus or off-campus. Credit hours and level (298, 398 or 498) are dependent upon the extent of the project and will be determined by the professor. Available by permission only. *(S)*

IT-499 Special Topics *(1-4 credits)* Allows department to offer topics not normally taught. Prerequisites vary by title.

IT-INS Independent Study *(1-4 credits)* See catalog.

IT-TUT IT Teaching Assistant *(1-4 credits)*

MATHEMATICS (MA)

MA-001 Non-Credit Mathematics Internship *(0 credits)* Provides student an overview of an organization as well as providing an opportunity for practical application of the skill developed in students' area of concentration. Note: See the chapter "Special Programs" under Internships listed as Internship (Title); must be 6 weeks long. Prerequisite: permission.

MA-100 Precalculus *(3 credits)* This course is designed for students who need a structured review of precalculus mathematics. Topics covered include solving equations and inequalities, graphing, and analysis of functions, including polynomial and rational functions, exponential and logarithmic functions and trigonometric functions. Integrates the use of the software package Maple in classroom demonstrations and

homework assignments. This course cannot be included in a mathematics POE. Prerequisites: High school algebra and trigonometry. *(N, QM)*

MA-103 Quantitative Methods *(3 credits)* This course prepares students to be quantitatively literate citizens in today's world. By learning to think critically about quantitative issues, students will be able to make responsible decisions in their daily lives. Problems are analyzed and solved using numerical, graphical, statistical, and algebraic reasoning. Technology is used to help visualize data and facilitate calculations, as well as to present quantitative output and verbal arguments. *(Q)*

MA-109 Mathematical Problem Solving *(3 credits)* In this course, students use unsophisticated math to find solutions to problems. Many of the math concepts will be familiar but there are some that will be new. The focus will be on using math creatively to answer questions of interest. Unlike standard math exercises that ask students to apply techniques to come up with a numerical answer or an expression, the questions require students to use the mathematics they know to come up with a strategy to accomplish a task or make meaningful decisions. Prereq or Coreq: FYC-101 or EN-110 or EN-109. *(QM, WK-FR)*

MA-116 Discrete Structures *(4 credits)* Introduces mathematical structures and concepts such as functions, relations, logic, induction, counting, and graph theory. Their application to Computer Science is emphasized. Pre-requisite high school algebra. *(N, Q)*

MA-130 Calculus I *(4 credits)* An introduction to calculus including differentiation and integration of elementary functions of a single variable, limits, tangents, rates of change, maxima and minima, area, volume, and other applications. Integrates the use of computer algebra systems, and graphical, algebraic and numerical thinking. NOTE: Every week, a 50-minute meeting will be set aside for supplemental instruction. Students who score below the threshold in the assessment exam administered at the beginning of the semester or are earning below 80 percent in the course are required to attend these sessions. *(N, QM)*

MA-138 Mathematics and Democracy *(4 credits)* Introduction to topics in mathematics related to democracy including voting theory, gerrymandering, and apportionment. We will discuss the comparison between these topics mathematically versus politically. Prerequsite or Corequisite: FYC-101 or EN-110 or EN-109. *(N, QM, WK-FR)*

MA-150 Symmetry in Math & Art *(3 credits)* Symmetry is often considered to give beauty to art and architecture. What is symmetry? How can we tell if two objects have the same symmetries? We will analyze symmetries in finite figures, strips patterns, and wallpaper patterns and investigate how symmetry relationships are encoded by mathematical groups. We will draw on examples across time, cultures, and disciplines. Pre- or Corequisite: FYC-101 *(WK-FR)*

MA-155 The Heart of Mathematics *(3 credits)* The goal of this course is to give a broad range of students the hands-on experience of doing mathematics. Topics may include infinity, higher dimensions, chaos, and graph theory. The emphasis will be on the process of doing mathematics: generating examples, looking for patterns, making conjectures, and proving these conjectures. Prerequisites: FYC 101. *(N, WK-FR)*

MA-160 Linear Algebra *(3 credits)* An introduction to systems of linear equations, matrices, determinants, vector spaces, linear transformations, eigenvalues, and applications.Prerequisites: MA130. *(N, QM)*

MA-199 Special Topics *(1-4 credits)* An introduction to one of the branches of mathematics not currently included in the regular course offerings.

MA-205 Elementary Statistics *(4 credits)* Introduction to traditional statistical concepts including descriptive statistics, binomial and normal probability models, confidence intervals, tests of hypotheses, linear correlation and regression, two-way contingency tables, and one-way analysis of variance. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109. *(N, QS, WK-SP)*

MA-208 Symbolic Logic *(4 credits)* An introduction to the basics of first-order logic: the concept of artificial language, techniques for symbolizing ordinary languages and arguments, formal inference systems (either truth- free method or natural deduction), and other advanced topics in first-order logic. It has no prerequisites beyond high school algebra. *(N, H, WK-FR)*

MA-210 Foundations of Mathematics *(3 credits)* An introduction to the logical and set-theoretic basis of modern mathematics. Topics covered include propositional and predicate logic; induction; naive and axiomatic set theory, binary relations, mappings, infinite sets and cardinality; finite sets and combinatorics; and an introduction to the theory of computability. Students will learn to read and to express mathematical ideas in the set-theoretic idiom. Prerequisites: MA160 or MA116 or PL208 or MA208 or permission of the instructor. *(CW)*

MA-220 Introduction to Probability & Statistics *(4 credits)* An introduction to the basic ideas and techniques of probability theory and to selected topics in statistics, such as sampling theory, confidence intervals, and linear regression. Prerequisite: MA130. *(N, QS, CTGES)*

MA-230 Calculus II *(4 credits)* Expands the treatment of two-space using polar and parametric equations. Emphasizes multivariable calculus, including vectors in three dimensions, curves and surfaces in space, functions of several variables, partial differentiation, multiple integration, and applications. Prerequisite: MA130. *(N, QM)*

MA-233 Integrals Series& Differential Equations *(2 credits)* Integration, Taylor and Fourier series, and an introduction to differential equations, with applications and the use of the software package Maple. Note: A student may receive credit for MA-233 or MA-235, but not for both. Prerequisite: MA-130. *(N)*

MA-235 Calculus III *(4 credits)* A continuation of the calculus sequence. Topics include methods of integration by Simpson's Rule, applications, Taylor and Fourier series; introduction to ordinary differential equations; integration in polar, cylindrical, and spherical coordinates; differential and integral vector calculus. Prerequisites: MA230. *(N, QM)*

MA-285 Math Research Seminar *(1 credits)* This course will introduce students to the experience of mathematics research. Each student will be part of a team working on an open problem selected by the instructor. Prerequisite: MA-116 or MA-210.

MA-299 Special Topics *(1-4 credits)* An introduction to one of the branches of mathematics not currently in the regular course offerings. Prerequisites: Vary depending on course offering.

MA-303 Mathematical Modeling *(3 credits)* How to use mathematics to model "real-world" problems. Modeling topics range from population dynamics to economics to the nuclear arms race. Mathematical tools range from calculus to curve fitting to computer simulation. How to make a little bit of mathematics go a long way. Note: MA160 is recommended. Prerequisite: MA130 and experience with programming and Minitab. *(N, QM, CW)*

MA-316 Combinatorics *(3 credits)* Advanced counting: what they didn't teach you on Sesame Street. An introduction to graphs, trees, and enumeration techniques with applications to computer science and biology. Prerequisites: MA116 or MA210 or MA220 or permission of the instructor. *(QM, N)*

MA-321 Multivariate Statistics *(3 credits)* A class in multivariate statistical techniques including non-parametric methods, multiple regression, logistic regression, multiple testing, principle analysis. Prerequisites: MA-130 or MA-160; an introductory statistics course from the following list: BI-305, EB-211, ESS-230, ESS-309, MA-205, MA-220, PY-366, or SW-215. *(N, QS)*

MA-322 Probability *(3 credits)* Topics in probability including discrete and continuous random variables, expectations, mean, variance, moment generating functions, multivariate distributions, correlation, and independence, all leading to an efficient study of the binomial, Poisson, gamma, chi-square, and normal distributions. Prerequisites: Take one of the following courses: MA-205, MA-220, EB-211, BI-305, ESS-230, ESS-309, PY-366, or SW-215, and take MA-230. *(N, QM)*

MA-325 Statistical Consulting *(3 credits)* The participating students will receive training during the semester in consulting on statistical problems and to assist in collaborative efforts with faculty and/or staff on client-partnered projects that are pre-determined. The semester-long project provides the student with both real work experience in the field of statistics and a project-based learning experience in partnership with the client. May be taken multiple times for credit. Pre-Reqs: FYC-101 or EN-110 or EN-109; any one course from the following list: BI-305, EB-211, ESS-230, ESS-309, MA-205, MA-220, PY-361, PY-366, or SW-215. *(N, QS, CW, SW-LE)*

MA-335 Differential Equations *(4 credits)* Theory and application of ordinary differential equations. Emphasis on modern qualitative techniques, with numerical and analytical approaches used when appropriate. Contains a brief introduction to partial differential equations. Prerequisites: MA130 and MA230 and MA235 or MA233. *(N, QM)*

MA-341 Scientific Computing *(3 credits)* This course begins with an introduction to fundamental concepts in Scientific Computing and concludes with domain-specific projects in areas like Bioinformatics, Data Science, Physical Systems, and Numerical Analysis. The common content will include command-line interfaces (Linux), programming languages (Jupyter/Python), numerical and graphical libraries (NumPy and Matplotlib), version-control (Git/Github), and relational databases (SQL). Pre-Req: CS-110. *(N)*

MA-350 Topics in Geometry *(3 credits)* Examines the history and development of geometry with an axiomatic development of Euclidean geometry leading to an investigation of hyperbolic and elliptical non-Euclidean geometries. The roles of these discoveries in the history of mathematics are emphasized. Prerequisites: MA210 or PL208 or MA208. *(N)*

MA-355 Nature of Mathematics *(1 credits)* An introduction to the history and philosophy of mathematics. Briefly traces the historical development of mathematics from its Oriental and Greek origins to modern times. Surveys the different philosophies of mathematics and provides some insight into the current crisis in the foundations of mathematics. Corequisite: MA350. Prerequisite: MA210 or PL208 or MA208.

MA-360 Abstract Algebra *(3 credits)* Investigates the algebraic properties of the real numbers and their generalizations. Emphasis on group theory, with introductions to integral domains, rings, fields and vector spaces. Prerequisites: MA160 and MA210.

MA-365 Number Theory *(3 credits)* An investigation of topics in Elementary Number Theory including divisibility, primes, congruence, congruence equations, quadratic residues and quadratic reciprocity,

arithmetic and multiplicative functions, Diophantine equations, and other topics selected according to interest. Prerequisites: MA210 or permission of the instructor. *(N)*

MA-370 Real Analysis *(3 credits)* Focuses on functions of a real variable, sequences, limits, continuity, differentiation and the derivation of standard theorems of the differential calculus. Prerequisites: MA210 and MA230 and MA235. *(N)*

MA-375 Complex Analysis *(3 credits)* Algebra and geometry of the complex numbers, analytic functions, complex integration, Taylor and Laurent series, residue theory, physical applications, and other topics as time allows. Prerequisites: MA235. *(N)*

MA-399 Special Topics *(1-4 credits)* An introduction to one of the branches of mathematics not currently included in the regular course offerings, such as number theory, history of mathematics, chaos and fractals, topology, graph theory, mathematical logic. Prerequisites: Vary depending on course offering. Note: abbreviated ST: Students may take each ST: course for credit.

MA-480 Mathematics Seminar I *(1 credits)* A discussion-based study of current mathematical literature and modeling problems. Students will both apply their previous mathematical knowledge and explore new topics. In addition, students may use this course as preparation for an individual research project to be completed in MA485. A junior taking this course may repeat it as a senior as MA481. Prerequisites: junior or senior standing, MA160, MA210 and MA235 or permission of the instructor. *(N)*

MA-481 Mathematics Seminar II *(1 credits)* See MA480. Prerequisite: MA480. *(N)*

MA-485 Mathematics Research *(3-5 credits)* Allows students to pursue a program of directed original research in pure or applied mathematics. Required of candidates for distinction in mathematics POE. Prerequisites: MA480. *(N)*

MA-490 Mathematics Internship *(1-9 credits)* Placement with an organization applying mathematical techniques such as statistical analysis, operations research, actuarial mathematics, or systems analysis. Designed to afford the student an opportunity to apply analytical and technical skills developed in the POE. Prerequisites: POE in Mathematics, permission and Jr. or Sr. Standing. Corequisite: MA495. *(N)*

MA-495 Internship Seminar *(1-6 credits)* Requires students to reflect on the internship experience and/or pursue research related to the placement. Corequisite: MA-495. Requires permission and sophomore, junior, or senior class standing. *(N)*

MA-INS Independent Study *(1-4 credits)* See catalog.

MA-TUT Mathematics Teaching Assistant *(1-4 credits) (N)*

MUSEUM STUDIES (MM)

MM-290 Czech Castle Collections I *(1 credits)* This spring semester course provides a basic introduction to the art, music, history, and culture of the Czech Republic and Lobkowicz Collections. MM-290 provides orientation and preparation for MM-291, the two-week experiential learning trip to the Czech Republic that occurs in the summer term. NOTE: The total fee for the experience is split between the two courses, with the majority of the fee on the spring semester billing and a $250 administrative fee on the summer term billing. *(IC, SW-GE)*

MM-291 Czech Castle Collections II *(2 credits)* This spring semester course provides a basic introduction to the art, music, history, and culture of the Czech Republic and Lobkowicz Collections. MM-290 provides orientation and preparation for MM-291, the two-week experiential learning trip to the Czech Republic that occurs in the summer term. Prerequisite: MM-290. NOTE: The total fee for the experience is split between the two courses, with the majority of the fee on the spring semester billing and a $250 administrative fee on the summer term billing. *(IC, SW-GE)*

MM-391 Ethics and Museums *(3 credits)* Museums of all types hold an honored place in societies across the globe. How do they earn this honor? Why do we visit them? What do they endeavor to provide, and do they succeed? Class participants visit several museums, and explore and debate evolving ethical positions that have guided museums in their collecting, exhibition, and business practices. Prerequisite or corequisite: FYC-101. *(SW-ER)*

MM-393 Cultural Instit & Community Audiences *(3 credits)* Cultural institutions play a role in confirming and expanding a sense of community. This course develops skills to connect with others over new or familiar ideas using artworks from the Juniata College Museum of Art collection. The class balances background reading with practical application using Huntingdon as a site for experimentation. All POEs encouraged. Prerequisite: FYC-101. *(SW-LE)*

MM-482 Practical Skills in 3-D Storytelling I *(3 credits)* Students collaborate to devise three-dimensional "stories" (exhibitions) at the Juniata College Museum of Art or similar sites using cultural objects, language, color, built environment, technology, public programming, while developing practical skills. Creativity, problem-solving, and communication are key to creating projects that benefit the public. Prerequisite: Take one of the following: AR-104, AR-117, CM-240, CONN-394, MM-391, or MM-393. Instructor permission required.

MM-483 Practical Skills in 3-D Storytelling II *(3 credits)* Students collaborate to devise three-dimensional "stories" (exhibitions) at the Juniata College Museum of Art or similar sites using cultural objects, language, color, built environment, technology, public programming, while developing practical skills. Creativity, problem-solving, communication are key to creating projects that benefit the public. Participants coach and mentor students in MM-482. Prerequisite: MM-482. Instructor permission required.

MM-490 Museum Studies Internship *(1-9 credits)* Requires permission and sophomore, junior, or senior class standing. Corequisite: MM-495.

MM-495 Internship Seminar *(1-6 credits)* Requires permission and sophomore, junior, or senior class standing. Corequisite: MM-490.

MM-INS Museum Studies Independent Study *(1-4 credits)* Independent study course in Museum Studies

MUSIC (MS)

MS-101 Music Fundamentals *(3 credits)* The course is designed to teach students the basic tools and elements of music and its notation. Students learn to become literate in the fundamentals of music (reading and writing music notes, intervals, scales, chords, rhythms, structure) and apply that knowledge to composition (e.g. a group project composing a brief percussion ensemble piece) and basic piano proficiency. The course includes discussions of the importance of music in society and in education. Listening skills are developed over the course of the semester. Pre- or Co-Req: FYC-101 or EN-110 or EN-109. *(F, WK-CE)*

MS-110 Survey of Western Music *(3 credits)* Uses the historical development of "Western" music literature as the basis for forming a better understanding of the art of music. Listening skills are developed over the course of the semester. *(F)*

MS-116 World Musics and Cultures *(3 credits)* World Musics and Cultures is a survey class intended to educate students about a variety of different cultures and how music functions in human society. Cultures covered will include South Asia (India and Pakistan), East Asia (China, Japan, and Korea), the Caribbean (Jamaica, Trinidad, and Cuba), and Sub-Saharan Africa, along with other possibilities. *(F, I, SW-GE)*

MS-120 Architectural & Musical Forms *(3 credits)* This course explores concepts of form -- the use and organization of aesthetic space -- through studies of how "building and bridge architects" and "musical architects" (composers and producers) structure artforms. Artifacts include everything from Ellis Hall and Brumbaugh Academic Center to large-scale bridges and the works of Frank Gehry, and from simple A-B-A forms to advanced classical and "art rock" musical forms. *(WK-FR)*

MS-130 History of American Popular Musics *(4 credits)* This course explores popular musics throughout American history, from Revolutionary War era through 20th century. Units on mainstream pop/rock, jazz and its ancestors, early town bands, musical theatre, country, fragmentation of the market in the 1960's, and other topics are included. Students complete various presentations and readings on topics affecting the development of mainstream pop music. Pre- oe Coreq: FYC-101 or EN-110 or EN-109. *(F, WK-CE)*

MS-199 Special Topics *(1-4 credits)* Allows the departments to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

MS-200 Music Literacy *(1 credits)* Music Literacy provides student musicians an opportunity to complete the Ways of Knowing Creative Expression requirement by learning to speak and write knowledgeably about an instrument, the music they are performing, and music's cultural context, as well as music history and theory. Develops active listening skills. To enroll in this course and to earn the Creative Expression requirement, students must have taken prior to and/or concurrently with this course, 3 credits of MU courses, taken in the same instrument. *(WK-CE)*

MS-299 Special Topics *(1-4 credits)* Allows the departments to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

MS-300 Music Theory I *(3 credits)* This course provides a beginning and intermediate knowledge of music theory including introductory tonal harmony and notation practices. Aural skills (solfeggio, sight singing, dictation, and basic transcription) will also be included, in a lab setting. Prerequisite: MS-101.

MS-303 Music Theory II *(3 credits)* This course provides an intermediate knowledge of music theory including more advanced tonal harmony and notation practices. Advanced tonal aural skills (solfeggio, sight singing, dictation, and basic transcription) will also be included, in a lab setting. Prerequisite: MS-301.

MS-399 Special Topics *(1-4 credits)* Provides supplements to the regular departmental program, exploring topics and areas not regularly scheduled. Note: abbreviated ST: (title). Students may take each ST course for credit.

MS-INS Independent Study *(1-4 credits)* See catalog.

MUSIC-APPLIED (MU)

MU-111A Woodwind Studio *(1-2 credits)* Private studio lessons help improve musicians' sound quality, intellectual understanding, technique, expression and creativity. Enrollment for 1 credit provides a weekly 30 minute private lesson; two credits provide a weekly 60 minute private lesson. No previous experience necessary. Private lessons carry additional fees. Studio music fees are not refunded after drop/add. Instructor will contact you. If you haven't heard from them by the 4th day of classes, you may email them. *(F)*

MU-111B Violin/Viola Studio *(1-2 credits)* Private studio lessons help improve musicians' sound quality, intellectual understanding, technique, expression and creativity. Enrollment for one credit provides a weekly 30 minute private lesson; two credits provide a weekly 60 minute private lesson. Students typically supply their own instruments. Violins and violas may be available for rental. No previous experience necessary. Private lessons carry additional fees. Studio music fees are not refunded after drop/add. Instructor will contact you. If you haven't heard from them by the 4th day of classes, you may email them. *(F)*

MU-111C Brass Studio *(1-2 credits)* Private studio lessons help improve musicians' sound quality, intellectual understanding, technique, expression and creativity. Enrollment for one credit provides a weekly 30 minute private lesson; two credits provide a weekly 60 minute private lesson. Students usually provide their own instruments, although some instruments may be available for sign-out. No previous experience necessary. Private lessons carry additional fees. Studio music fees are not refunded after drop/add. Instructor will contact you. If you haven't heard from them by the 4th day of classes, you may email them. *(F)*

MU-111D Percussion Studio *(1-2 credits)* Private studio lessons help improve musicians' sound quality, intellectual understanding, technique, expression and creativity. Enrollment for one credit provides a weekly 30 minute private lesson; two credits provide a weekly 60 minute private lesson. No previous experience necessary. All instruments are supplied by the College, but purchase of music, sticks, or mallets may be required. Private lessons carry additional fees. Studio music fees are not refunded after drop/add. Instructor will contact you. If you haven't heard from them by the 4th day of classes, you may email them. *(F)*

MU-111E Piano Studio *(1-2 credits)* Private studio lessons help improve musicians' sound quality, intellectual understanding, technique, expression and creativity. Enrollment for one credit provides a weekly 30 minute private lesson; two credits provide a weekly 60 minute private lesson. Pianos are available for practice in the music building. No previous experience necessary. Private lessons carry additional fees. Studio music fees are not refunded after drop/add. Instructor will contact you. If you haven't heard from them by the 4th day of classes, you may email them. You must complete all semesters in order. (ex: MU111E, MU112E, MU211E, MU212E, etc.) *(F)*

MU-111F Voice Studio *(1-2 credits)* Private studio lessons help improve musicians' sound quality, intellectual understanding, technique, expression and creativity. Enrollment for one credit provides a weekly 30 minute private lesson; two credits provide a weekly 60 minute private lesson. No previous experience necessary. Private lessons carry additional fees. Studio music fees are not refunded after drop/add. Instructor will contact you. If you haven't heard from them by the 4th day of classes, you may email them. *(F)*

MU-111G Guitar Studio *(1-2 credits)* Private studio lessons help improve musicians' sound quality, intellectual understanding, technique, expression and creativity. Enrollment for one credit provides a weekly 30 minute private lesson; two credits provide a weekly 60 minute private lesson. Students supply their own instruments. No previous experience necessary. Private lessons carry additional fees. Studio music fees are not refunded after drop/add. Instructor will contact you. If you haven't heard from them by the 4th day of classes, you may email them. *(F)*

MU-111H Flute Studio *(1-2 credits)* Private studio lessons help improve musicians' sound quality, intellectual understanding, technique, expression and creativity. Enrollment for one credit provides a weekly 30 minute private lesson; two credits provide a weekly 60 minute private lesson. Students supply their own instruments. No previous experience necessary. Private lessons carry additional fees. Studio music fees are not refunded after drop/add. Instructor will contact you. If you haven't heard from them by the 4th day of classes, you may email them. *(F)*

MU-111I Cello Studio *(1-2 credits)* Private studio lessons help improve musicians' sound quality, intellectual understanding, technique , expression and creativity. Enrollment for one credit provides a weekly 30 minute private lesson; two credits provide a weekly 60 minute private lesson. Students typically supply their own instruments although instruments may be available for sign-out on a limited basis. No previous experience necessary. Private lessons carry additional fees. Studio music fees are not refunded after drop/add. Instructor will contact you. If you haven't heard from them by the 4th day of classes, you may email them. *(F)*

MU-111K Studio Jazz Improvisation Lessons *(1-2 credits)* Private improvisation instruction, primarily in jazz styles. Individualized curriculum, based on needs and abilities of each student, will include scales, chords, and real-time usage of those elements in improvising. Also, basic instruction in one or more of these areas may be added by instructor if deemed necessary and only as directly related to student's development as an improviser: biographies and styles of famed improvisers, ear training, transcribing, and jazz styles/history. Studio music fees are not refunded after drop/add. Enrollment for one credit provides a weekly 30 minute private lesson; two credits provide a weekly 60 minute private lesson. Students provide their own instruments. No previous experience necessary. Private lessons carry additional fees. Instructor will contact you. If you haven't heard from them by the 4th day of classes, you may email them. *(F)*

MU-111L Bass Studio *(1-2 credits)* Private studio lessons help improve musicians' sound quality, intellectual understanding, technique, expression and creativity. Enrollment for 1 credit provides a weekly 30 minute private lesson; two credits provide a weekly 60 minute private lesson. No previous experience necessary. Students must supply their own instrument. Private lessons carry additional fees. Studio music fees are not refunded after drop/add. Instructor will contact you. If you haven't heard from them by the 4th day of classes, you may email them. *(F)*

MU-111M Composition/Song Writing *(1-2 credits)* This course is one-on-one studio instruction in the craft of composition and/or songwriting. Instruction focuses on traditional classical/concert music, but also includes other genres as needed including, pop, folk, rock, and jazz. Topics include notation, orchestration, idiomatic writing for instruments and voices, musical form, and score study. Short term assignments are given throughout the semester, culminating in a more substantial work. *(F, CTDH)*

MU-133 JC Concert Band *(1 credits)* One of two wind bands at Juniata. This ensemble performs a variety of level III-IV concert band literature as well as occasional woodwinds-only and brasses-only pieces, to develop ensemble playing abilities, explore significant and newer quality wind literature, improve members' musicianship, and experience the communicative aspects of music. *(F)*

MU-141 Orchestra *(1 credits)* Orchestra performs a wide variety of music for both string ensembles and full orchestra chosen to develop musicianship and ensemble. Rehearsals and concerts emphasize the development of musical skills necessary to create a high quality performance experience for both players and audience. Requirements include attendance at a weekly sectional rehearsal and the full ensemble rehearsal in addition to individual preparation. Field trips to hear excellent performances by professional

string artists may be offered. Note: Students enroll in MU141 their first semester, MU142 their second, etc. *(F)*

MU-163 Jazz Ensemble *(1 credits)* Performs a wide variety of Jazz ensemble music chosen to develop ensemble playing abilities and musicianship. Rehearsal and concert emphasize the communicative aspects of music and the development of the tools that are necessary to produce a high quality ensemble experience. Practice outside of full rehearsals is required. NOTE: Jazz ensemble students enroll in MU163 their first semester of membership, then MU164, then MU165, etc. Winds must also be enrolled in MU 133-140 or MU 191-198. *(F)*

MU-171 Choral Union *(1 credits)* Performs larger choral works to develop vocal ability, sight reading, diction skills, and musicianship. One major on-campus performance per semester. *(F)*

MU-181 Juniata Concert Choir *(1 credits)* Performs a variety of choral music chosen to develop vocal ability, sight-reading, multi-lingual diction skills, and musicianship. Performances and projects include on-campus programs, spring tour(s), recording, and weekend tour. Members selected through audition. *(F)*

MU-189 Instrumental Lessons (Ensemble Members) *(1 credits)* MU-189 enables students in one of our major instrumental ensembles to also enroll in lessons with the appropriate studio instructor for a 30-minute private lesson every other week or two students per lesson weekly. Lessons are not a requirement for membership in an ensemble, but you must be in an ensemble to register for MU-189. If the ensemble course is dropped, this course must also be dropped. Corequisite: MU-133 or MU-141 or MU-163 or MU-191.

MU-191 Juniata College Symphonic Band *(1 credits)* Symphonic Band is the premier instrumental ensemble at Juniata College. The ensemble performs a variety of band literature chosen to develop ensemble-playing abilities and musicianship, as well as occasional chamber pieces for sections or heterogeneous groups. Rehearsals and concerts emphasize the communicative aspects of music and the development of the tools that are necessary to produce a high-quality ensemble experience. *(F)*

MU-199 MU Special Topics *(1 credits)* Allows departments to offer topics not normally taught. Prerequisites, corequisites, and fees vary by title.

MU-210 Musical Improvisation *(1 credits)* This course will present the basics of musical improvisation technique. Basic jazz music theory (scales, chords) and brief historical coverage of famed improvisers (Ella, Bird, Trane, Miles, et al.) will also be included. Extensive in-class student demonstrations of improvisation skills will be expected. Practice/goal oriented jam session time outside of class is expected, 5 hours per week is recommended. *(F)*

MU-299 MU Special Topics *(1 credits)* Allows departments to offer topics not normally taught. Prerequisites, corequisites, and fees vary by title.

MU-341 Orchestra *(1 credits)* Orchestra performs a wide variety of music for both string ensembles and full orchestra chosen to develop musicianship and ensemble. Rehearsals and concerts emphasize the development of musical skills necessary to create a high quality performance experience for both players and audience. Requirements include attendance at a weekly sectional rehearsal and the full ensemble rehearsal in addition to individual preparation. Repeatable for credit. *(F)*

MU-363 Jazz Ensemble *(1 credits)* Performs a wide variety of Jazz music chosen to develop ensemble-playing abilities and musicianship. Rehearsals and concerts emphasize the communicative aspects of music

and the development of the tools that are necessary to produce a high-quality ensemble experience. Practice outside of full rehearsals is required. Repeatable for credit. *(F)*

MU-380 Concert Choir *(1 credits)* Performs a variety of choral music chosen to develop vocal ability, sight-reading, multi-lingual diction skills, and musicianship. Performances and projects include on-campus programs, spring tour(s), recording, and weekend tour. Members selected through audition. Repeatable for credit. *(F)*

MU-495 Senior Recital *(2-4 credits)* Individual instrumental or vocal lessons for students preparing a Senior Recital. The Senior Recital will be presented at the end of the semester of study and consist of 45-60 minutes of memorized literature, demonstrating the highest level of technical and musical accomplishment. Requires permission of the instructor. *(F)*

MU-INS Independent Study *(1-4 credits)* See catalog.

NON-DEPARTMENTAL (ND)

ND-001 Non-Credit Non-Departmental Internship *(0 credits)* Provides students an overview of an organization.

ND-110 Career Planning *(1 credits)* Examines theories of occupational choice and career development and provides the learner with the opportunity to become more aware of their interests, values, and capacities as they relate to the career decision-making process. *(S)*

ND-199 ND Special Topics *(1-4 credits)* Allows departments to offer courses not normally taught. Prerequisites and fees vary by course titles.

ND-203C Cultural Learning Tour I *(1 credits)* Students enrolled in this short-term study-away program will participate a two-course series. The first is ND-203C, which is a predeparture course in the fall or spring semester that will facilitate development of learning objectives and provide background information related to the region in which the group will serve. The second is ND-230D, which is the service-learning trip in the winter or summer term, during which participants will explore social, cultural, political and/or environmental issues through various service and educational experiences. Involvement in trip activities will help students develop a foundation of knowledge about the importance of civic and community engagement. NOTE: The total fee for the experience is split between the two courses in the series. Instructor permission is required to register.

ND-203D Cultural Learning Tour II *(1 credits)* Students enrolled in this short-term study-away program will participate a two-course series. The first is ND-203C, which is a predeparture course in the fall or spring semester that will facilitate development of learning objectives and provide background information related to the region in which the group will serve. The second is ND-203D, which is the service-learning trip in the winter or summer term, during which participants will explore social, cultural, political and/or environmental issues through various service and educational experiences. Involvement in trip activities will help students develop a foundation of knowledge about the importance of civic and community engagement.

ND-271 3D Design, Scanning & Printing *(4 credits)* The course introduces non-specialist students to the current techniques of 3D design, scanning, and printing. It harnesses technology to creative art opportunities and artistic appreciation to technological processes. No pre-existing skill sets are assumed so the course is suitable to beginners and novices. Pre-requisite: FYC-101 *(CTDH, WK-CE)*

ND-291 Frontiers in STEM *(1 credits)* This course provides students studying in a STEM field with the tools needed to gain experiences as a developing scientist. The course will provide guidance and support for preparing applications and seeking research opportunities in preparation for employment or graduate study. This course is most appropriate for second-year students, but first- and third-year students will benefit as well.

ND-292 Fulbright Special Topics Course *(1-3 credits)* This course will focus on a people and culture outside of the U.S. or on a global challenge. The course will often relate to Mexico or to U.S.-Mexico relations. The specific topic of this course will be determined based on the interests of the Mexico Studies Chair and the needs of the College. *(I, SW-GE)*

ND-298 Transitions *(1 credits)* Faculty, staff, alumni, and guests will provide expertise and advice designed to help students understand and prepare for successful transitions. The process of transition (loss of what is familiar and known) will be discussed utilizing models of behavior within social systems and personal experiences. Case studies will examine: changing career goals; adjusting to cultural differences; the transition from life as an undergraduate to life as a graduate student; work life unreadiness; lifestyle adjustments such as financial independence, rural to urban, and changing relationships.

ND-299 Special Topics *(1-4 credits)* Allows department to offer courses not normally taught. Prerequisites vary by title.

ND-308 Science Outreach Leadership *(1-3 credits)* Offers the opportunity for active participation in the planning, design, and implementation of the PA Junior Science & Humanities Symposium and the PA Special Olympics events that are hosted at Juniata College.

ND-311 Digital Ethics *(4 credits)* The digital revolution has forced upon humanity a new set of ethical challenges. Many of these challenges continue to confound us. In a seminar setting, students investigate the most pressing questions of digital life and formulate their own views and moral stances. Pre- or co-req: FYC-101 or EN-110 or EN-109. *(SW-ER, CTDH)*

ND-399 Special Topics *(2-9 credits)* Allows the departments to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

ND-490 Non-Departmental Internship *(1-9 credits)* Requires permission and sophomore, junior, or senior class standing. Corequisite: ND-495.

ND-495 Internship Seminar *(1-6 credits)* Requires permission and sophomore, junior, or senior class standing. Corequisite: ND-490.

ND-498 Natural Sciences Capstone *(1 credits)* The natural sciences capstone course is appropriate for any student in the natural sciences needing to fulfill the capstone requirement of the Juniata Curriculum. The course may be taken by any student with a natural sciences POE in their last 30 credits at Juniata. Offered asynchronously online, the course will be graded satisfactory/unsatisfactory. Guided by a series of tutorial videos, students are required to submit an up-to-date resume and two portfolio contributions. Through these assignments, students will reflect on how their Juniata experience has shaped their intellectual and personal growth.

ND-499 ND Special Topics *(1-4 credits)* Allows department to offer topics not normally taught.

ND-INS Independent Study *(1-4 credits)* See Catalog.

ND-TUT ND Teaching Assistant *(1-3 credits)* See catalog.

NEUROSCIENCE (NEU)

NEU-001 Non-Credit Neuroscience Internship *(0 credits)* Provides students an overview of an organization including its structure, strategies and principal lines of activity as well as providing an opportunity for practical application of the skills developed in students' areas of concentration. Note: see the chapter "Academic Programs" inder Internships: listed as Internship(title)must be at least 9 weeks long. Prerequisites: The EB Core or Foundation Courses, sophomore standing and permission.

NEU-120 Fundamentals Undergraduate Neuroscience *(1 credits)* This course explores the many subfields of neuroscience, such as behavioral neuroscience, cognitive neuroscience, neurophysiology, and molecular neuroscience. Students work with faculty partners to lead a discussion on a paper one week, followed by a research seminar given by the paper's author the second week. The course culminates in capstone projects by senior Neuroscience POEs.

NEU-494 Neuroscience Senior Capstone *(2 credits)* This course serves as a reflection and utilization of a student's learning and skills gained throughout their tenure at Juniata College. Students will practice effectively communicating neuroscientific knowledge in a variety of formats intended for various audiences. Activities will be tailored to the student's interests and future career goals. This course also includes mentorship of Neuroscience students in NEU-120. NOTE: Must be taken in the final 30 credits of a student's undergraduate program.

NURSING (NUR)

NUR-200 Art of Professional Nursing *(3 credits)* This course introduces students to the dynamic and inspiring world of professional nursing. It highlights the essential role of personal values, ethical principles, and aesthetic awareness in shaping meaningful nursing practice. Students will explore how evidence-informed decision-making forms the foundation of compassionate and effective care while fostering curiosity, critical thinking, and creativity, preparing students to navigate the complexities of modern healthcare with confidence and purpose. Note: Must be admitted to the Bachelor of Science in Nursing program to enroll in this course.

NUR-202 Health Assessment Across the Lifespan *(3 credits)* This laboratory focuses on the process of health assessment as influenced by the concepts of human physics. Utilizes professional interviewing techniques to obtain a basic health history that incorporates socio-cultural, psychological, and physical health dimensions. Relationship-based caring practices are expanded to include issues of privacy, confidentiality, quality, safety, and responses to diversity. Medical terminology and abbreviations are reinforced including proper documentation of history and assessment findings. Prerequisite: NUR-200. Note: Must be admitted to the Bachelor of Science in Nursing program to enroll in this course.

NUR-255 Foundations of Nursing Practice *(4 credits)* This course introduces the nursing process as a strategy for making evidence-based clinical judgments. Nursing professional and ethical values are reinforced as the foundation for implementing relationship-centered care to meet the needs of patients in various health care settings. Approaches to maintaining and improving the health of people are presented and applied for incorporating safety and quality standards. Course will also focus on the dietary implications and nutritional needs to promote optimal health outcomes. Prerequisite: NUR-200. Note: Must be admitted to the Bachelor of Science in Nursing program to enroll in this course.

NUR-265 Nursing Care of Adults I *(6 credits)* This course introduces the care of adult patients beyond foundational care. The course includes health alterations and nursing care with a focus on concepts related to comfort, coping, homeostasis, protection, perioperative care, sensory input, ingestion, digestion, absorption, elimination, oxygenation, and ventilation. Students will develop clinical reasoning, communication, and decision-making skills in caring for adult patients across the healthcare continuum. Prerequisite: NUR-202, NUR-255, NUR-266. Note: Must be admitted to the Bachelor of Science in Nursing program to enroll in this course.

NUR-266 Pathophysiology *(3 credits)* This course explores the dynamic interplay between pathophysiology and pharmacology within the context of nursing practice. Students will develop a comprehensive understanding of altered physiological processes and the corresponding pharmacological interventions used in the treatment and management of various health conditions. The role of microorganism and microbiology are explored as it relates to diseases and medications. Prerequisite: NUR-200. Note: Must be admitted to the Bachelor of Science in Nursing program to enroll in this course.

NUR-305 Nursing Care of Women/Children/Families *(6 credits)* This comprehensive nursing course is designed to prepare students with the knowledge and skills necessary to provide care in obstetrical and pediatric settings. The course integrates theoretical foundations, evidence-based practice, and practical clinical experiences to enhance the competence and confidence of nurses working in obstetrics and pediatrics. Prerequisite: NUR-265, NUR-366. Note: Must be admitted to the Bachelor of Science in Nursing program to enroll in this course.

NUR-310 Mental Health Nursing *(4 credits)* This course provides the theoretical base and practical experiences to prepare students to become competent to meet the mental health needs of patients. Covering concepts of history, trends, evidence-based practice, and ethics in healthcare. The connected relationship between physical, mental & spirituality is examined. A social justice and service-orientation perspective in addition to safety and quality issues related to mental health patients are explored within the framework of complex health care delivery systems. Prerequisite: NUR-265, NUR-366. Note: Must be admitted to the Bachelor of Science in Nursing program to enroll in this course.

NUR-350 Healthcare Informatics & Technology *(2 credits)* This course offers an introduction to healthcare informatics and communication systems in the clinical, financial, practice, and research realm for the improvement of patient outcomes. Content will focus on the relevance, application, and impact of informatics in the healthcare arena along with the future role informatics will play in the provision of healthcare. Past, present, and future healthcare informatics will be explored. Note: Must be admitted to the Bachelor of Science in Nursing program to enroll in this course.

NUR-355 Nursing Care of Adults II *(6 credits)* This course builds on the novice knowledge of Nursing Care of Adults I and introduces students to intermediate nursing care concepts, focusing on acute and chronic conditions affecting oxygenation, perfusion, urinary function, regulatory and reproductive mechanisms, and movement and coordination. Prerequisite: NUR-265. Note: Must be admitted to the Bachelor of Science in Nursing program to enroll in this course.

NUR-366 Pharmacology *(3 credits)* This course introduces students to the principles of pharmacology, including drug classifications, mechanisms of action, therapeutic uses, adverse effects, and interactions. Emphasis is placed on the safe and effective use of medications in patient care, with a focus on critical thinking and clinical decision-making aligned with professional competencies. Prerequisite: NUR-202; NUR-255, NUR-266. Note: Must be admitted to the Bachelor of Science in Nursing program to enroll in this course.

NUR-400 Nursing Research Methods *(3 credits)* An introduction to applied statistics and the application of statistics to research methods in the health sciences are covered. This course is designed to expand the general mathematics liberal arts preparation to prepare students to assess, interpret, analyze, apply, and evaluate statistics and statistical methods commonly used in evidence-based practice and nursing research. Topics covered include statistical methods, levels of measurement, sampling, reliability, validity, frequencies, percentages, graphs, measures of central tendency, measures of dispersion, experimental design, sampling methods and common parametric and non-parametric tests, including analysis of variance, correlation, and regression. Prerequisite: MA-205. Note: Must be admitted to the Bachelor of Science in Nursing program to enroll in this course.

NUR-405 Population Health-Local to Global *(4 credits)* This course focuses on the dynamic relationship between the health of the community and the development of interprofessional partnerships to promote health and prevent disease. Research, health promotion, epidemiology, rural healthcare, and public health concerns will be discussed including health care access, environmental health, ethical issues, and cultural aspects of health behavior. Students will analyze the various roles of the nurse in both community-oriented and community-based nursing practice. Note: Must be admitted to the Bachelor of Science in Nursing program to enroll in this course.

NUR-425 Complex Nursing Care *(3 credits)* This course focuses on the care of patients with complex and multisystem health issues across the lifespan. Emphasis is placed on advanced critical thinking, clinical decision-making, and evidence-based nursing care. Topics include acute and chronic conditions, high-acuity patient care, and end-of-life care. Prerequisite: NUR-355. Note: Must be admitted to the Bachelor of Science in Nursing program to enroll in this course.

NUR-450 Professional Nursing Pathway to Practice *(4 credits)* The course is the culminating experience in the Bachelor of Science in Nursing nursing education program, designed to integrate and apply the knowledge, skills, and competencies acquired throughout the curriculum. This course focuses on preparing nursing students for the transition from academia to ethically-responsible professional practice by emphasizing critical thinking, leadership, evidence-based practice, and the integration of ethical principles for life-long learning. Note: Must have senior class standing and be admitted to the Bachelor of Science in Nursing program to enroll in this course.

NUR-455 Nursing Leadership Immersion *(6 credits)* Organizational leadership and management theories are presented along with strategic planning, responses to change, quality improvement, safety, fiscal management, and continuing education principals. The clinical focuses on concepts of prioritization, delegation, leadership, teamwork, professional responsibility, and collaboration under the guidance of a registered nurse. Note: Must have senior class standing and be admitted to the Bachelor of Science in Nursing program to enroll in this course.

PEACE AND CONFLICT STUDIES (PACS)

PACS-001 Non-Credit Peace and Conflict Internship *(0 credits)* Provides students an overview of an organization as well as providing an opportunity for practical application of the skill developed in students' area of concentration. Note: see the chapter under "Special Programs" under Internships. Internship must be at least 6 weeks long. Prerequisite: permission.

PACS-105 Introduction to Conflict Resolution *(3 credits)* A survey of the field of conflict, this course explores the causes and consequences of social conflict. Theory and case studies are used to understand

interpersonal disputes, the intricacies of groups in conflict and international issues and crisis. Emphasis is given to understanding the basic theoretical concepts of the field and developing basic conflict resolving skills. Pre- or Co-Req: FYC-101 or EN-110 or EN-109. *(S, WK-SI)*

PACS-108 Mediation *(3 credits)* This course is an introduction to the theory and skills that constitute the practice of interest-based mediation. Students will learn the fundamentals of mediation, become familiar with their own conflict resolution styles, and consider some cultural and ethical issues relevant to the practice of mediation. Weekly readings will provide a theoretical framework, but this course's emphasis will be on skill development. Through small-group role-play and simulation, students will work toward proficiency in the mediation process and provide constructive peer evaluations in a collaborative, spirited atmosphere. Pre- or Co-Req: FYC-101 or EN-110 or EN-109. *(S, SW-ER)*

PACS-110 Introduction to Peace & Conflict Studies *(3 credits)* This course explores war and deep-rooted conflict as human problems and peace as a human potential. Students collaborate in small groups to explore a range of different approaches to peace around the world. Prerequisite or corequisite: FYC or CWS *(I, SW-GE)*

PACS-199 Special Topics *(1-4 credits)* Allows the department to offer topics not normally taught. Prerequisites vary by title.

PACS-210 Technology, Social Media, and Conflict *(3 credits)* This course explores the complex relationship between technology, social media, and conflict in contemporary society. Students will examine how digital tools and platforms shape, escalate, and potentially resolve conflicts worldwide. Through case studies and theoretical frameworks, the course will cover topics such as misinformation, cyber warfare, the role of algorithms, social media's impact on public opinion, and the ethical responsibilities of tech companies. Students will discuss digital media's influence on activism, political movements, and state and non-state actors in both democratic and authoritarian contexts. Pre- or Co-requisite: FYC-101. *(WK-SI)*

PACS-233 Hiroshima and Peace I *(1 credits)* This preparatory course examines the atomic bombing of Hiroshima through scientific, ethical, and cultural lenses. Students explore the physics of nuclear weapons, ethical responsibility in science and warfare, and key aspects of Japanese history and culture. The course prepares students for immersive study in Japan through ethical reasoning and reflective engagement. Pre- or co-requisite: FYC-101. PACS-233 is the first in a two-course series that comprises a short-term study abroad program. PACS-233 is the predeparture course that will occur in the Spring Semester, followed by a Summer Term course during which the group will travel to Japan. Both courses must be completed to fulfill the general education requirement. NOTE: The total fee for the experience is split between the two courses, with the majority of the fee on the spring semester billing and a $250 administrative fee on the summer term billing. *(SW-ER)*

PACS-234 Hiroshima and Peace II *(2 credits)* This two-week travel course immerses students in Japan through cultural exploration in Kyoto and ethical reflection in Hiroshima. Students engage with historical sites, museums, and memorials while reflecting on nuclear weapons, memory, reconciliation, and peace. Emphasis is placed on ethical reasoning, empathy, and cross-cultural understanding. Prerequisite: PACS-233. PACS-234 is the second course in a two-course series that comprises a short-term study abroad program. PACS-234 is the Summer Term course during which the group will travel to Japan. Both PACS-233 and PACS-234 must be completed to fulfill the general education requirement. NOTE: The total fee for the experience is split between the two courses, with the majority of the fee on the spring semester billing and a $250 administrative fee on the summer term billing. *(SW-ER)*

PACS-299 Special Topics *(1-4 credits)* An examination of an area of study not regularly included in departmental offerings. Prerequisites vary with topics.

PACS-305 Gender and Conflict *(3 credits)* This course looks at the intersection of gender and conflict to understand what it means to say that a conflict is gendered. It uses gender as an organizing concept to study issues of gender equality, justice, and peace, challenging and interrogating dichotomous, oppositional constructions of masculinity and femininity to understand how they contribute to direct, structural, and cultural violence. Pre- or Co-requisite: FYC-101 or EN-110 or EN-109. *(S, I, CW, SW-ER)*

PACS-308 Nonviolence and Social Justice *(3 credits)* A study of the theory and practice of non-violence, this course explores both the theoretical development of nonviolence and the use of nonviolence as a means for waging and resolving conflict. The course explores nonviolence theory as it applies to issues of social change, alternative defense, and personal transformation, using writings from political, sociological, feminist, religious and philosophical perspectives. Prerequisite: FYC-101 or EN-110 or EN-109. (Formerly titled Nonviolence: Theory and Practice) *(S, H, CW, SW-US)*

PACS-391 Scholar in Residence Special Topic *(3 credits)* This course will be offered by the PACS Scholar-in-Residence and section topics will vary depending upon the expertise of the visiting scholar. Topics will help students explore theories and frameworks for understanding negotiation within the field of peace and conflict studies as well as links to related fields such as psychology, communications, anthropology, international relations, and political science. Students will then apply their skills by conducting negotiations through simulation, role play, and practical exercises. *(WK-SI)*

PACS-399 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

PACS-455 PACS Honors Thesis I *(3-6 credits)* Designed to serve as a course for students who emphasize PACS in their POE. The student will produce a major research paper that examines in depth a topic, theme, issue, or problem that has served as an area of special interest for the student throughout the previous two years of study. Prerequisite: Senior standing, PACS105 and PACS110 and a minimum of 4 200+ level PACS courses. *(H)*

PACS-455B PACS Honors Thesis II *(3-6 credits)* Designed to serve as a capstone for students who emphasize PACS in their POE. The student will be expected to produce a major research paper that examines in depth a topic, theme, issue, or problem that has served as an area of special interest for the student throughout the previous two years of study. Prerequisite is Senior standing. PACS105 and PACS110 and a minimum of 4 200+ level PACS courses. *(S)*

PACS-490 Peace & Conflict Studies Internship *(1-9 credits)* An opportunity which requires students to relate theory and practice to a working environment and to reflect upon that experience. Corequisite: PACS-495. Requires permission and sophomore, junior, or senior class standing. *(I)*

PACS-495 Internship Seminar *(1-6 credits)* Requires students to reflect on the internship experience and/or pursue research related to the placement. Corequisite: PAC-S490. Requires permission and sophomore, junior, or senior class standing. *(I)*

PACS-499 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

PACS-INS Independent Study *(1-4 credits)*

PACS-TUT PACS Teaching Assistant *(1-4 credits)* See catalog *(S)*

PHYSICS & ENGINEERING PHYSICS (PC)

PC-001 Non-Credit Physics Internship *(0 credits)* Provides students an overview of an organization as well as providing an opportunity for practical application of the skill developed in students' area of concentration. Note: see the chapter " Special Programs " under Internships; listed as Internship (Title); must be 6 weeks long. Prerequisite: Permission.

PC-189 Physics Seminar *(1 credits)* This seminar, required of all first-year Physics and Engineering Physics POEs, consists of research seminars given by invited speakers and members of the department, both faculty and students. Discussions regarding specific career opportunities and preparation for graduate studies will also be an integral part of the seminar.

PC-199 Special Topics *(1-4 credits)* Entry level treatment of a variety of academic/practical experiences in physics such as Microcontroller Electronics and Physics Phun Night Practicum. Note: Students may take each ST: course for credit.

PC-200 General Physics I *(3 credits)* An algebra-based introduction to the basic principles of mechanics (including periodic motion, fluid static's and dynamics), heat and thermodynamics, molecular theory and wave motion (including acoustics). Note: A working knowledge of algebra, geometry, and trigonometry is required. Corequisite: PC-200L. *(N, QM)*

PC-200L General Physics Lab I *(1 credits)* An introductory algebra-based laboratory experience designed to accompany PC200. The individual experiments will involve topics in mechanics, energy, sound, and waves. Labs Involve computer acquisition of data for some experiments. Note: A special fee is assessed. Corequisites: PC200. *(N)*

PC-201 General Physics II *(3 credits)* An algebra-based introduction to basic principles of electricity, magnetism, electromagnetic waves, and optics. Additional topics may include atoms and molecules, nuclear physics, relativity and solid state physics. Note: A working knowledge of algebra, geometry, and trigonometry is required. Corequisite: PC-201L. Prerequisite: PC-200. *(N, QM)*

PC-201L General Physics Lab II *(1 credits)* An algebra-based introductory laboratory experience designed to accompany PC201. The individual experiments will involve topics in circuits, light and optics, and nuclear physics. Involves computer acquisition of data for some experiments. Note: A special fee is assessed. Corequisite: PC201. *(N)*

PC-202 Intro Physics I *(3 credits)* A calculus-based introduction to the basic principles of mechanics (including periodic motion and dynamics), heat and thermodynamics, and special relativity. Corequisite: PC-202L. Corequisite or Prerequisite: MA-130 or MA-230. *(N, QM, WK-FR)*

PC-202L Intro Physics Lab I *(1 credits)* This lab is a calculus-based introductory laboratory experience that is designed to accompany PC-202. Individual experiments will correlate with the course, including kinematics, Newton's Laws, energy, and momentum. Corequisite: PC-202. Prerequisite or corequisite: MA-130 or MA-230. *(N)*

PC-203 Intro Physics II *(3 credits)* A calculus-based introduction to basic principles of electricity, magnetism, electromagnetic waves and optics. Additional topics may include atoms and molecules, nuclear physics, relativity and solid state physics. Corequisite: PC-203L. Prerequisite: PC-202 or PC-204. *(N, QM)*

PC-203L Intro Physics Lab II *(1 credits)* An algebra-based introductory laboratory experience designed to accompany PC203. The individual experiments will involve topics in circuits, light and optics, and nuclear physics. Prerequisite: PC-202 or PC-204. Corequisite: PC-203. *(N)*

PC-204 University Physics *(4 credits)* A calculus-based introduction to the basic principles of mechanics (including periodic motion, statics, and dynamics), heat and thermodynamics, and special relativity. This course includes an integrated introductory laboratory experience. This course is designed to be taken by students interested in a Program of Emphasis in Physics or Engineering Physics. Pre- or co-requsites: MA-130; FYC-101 or EN-110 or EN-109. *(N, QM, WK-FR)*

PC-209 Electronics *(3 credits)* An introduction to the theory and application of analog and digital electronics, starting with basic AC and DC circuits. The unit explains the principles of operation of the power supply, amplifier, oscillator, logic circuits, micro controllers, and other basic circuits. An associated laboratory component allows construction of and measurements on the circuits under consideration. Note: a special fee is assessed. *(N)*

PC-217 Engineering Tools & CAD *(3 credits)* In this highly hands-on and applied course, students will develop skills valuable to working as an engineer. These include isometric drafting, reverse engineering 3D objects, and working with various CAD software. 3D printing skills will also be developed and utilized to fabricate objects and multi-part systems in various materials. Students will work independently and in groups at various times throughout the course.

PC-239 Nuclear Threat *(4 credits)* This course examines the development and ramifications of nuclear weapons. Students will learn the basic physics upon which these devices operate, and explore moral issues that arose in the interactions of communities impacted by their construction, use, and testing, including the perspectives of scientists, government officials, and affected citizenry. Current issues and concerns regarding nuclear weapons will be studied as well. *(CA, N, H, CW, WK-SP)*

PC-260 Intro to Materials Science & Engineering *(3 credits)* The field of Materials Science drives technological innovations underlying all engineering fields. This course provides a scientific foundation to promote a rigorous understanding of materials from an atomistic to macroscopic viewpoint. Material systems (polymers, metals, ceramics, and electronic) are developed sequentially to provide a framework to explain the fundamental, physical origins of observable and important macro scale properties. Prerequisite: MA-130.

PC-299 Special Topics *(1-4 credits)* Entry level treatment of a variety of academic/practical experiences in physics such as Musical Acoustics and Physics Phun Night Practicum. Note: Students may take each ST: course for credit.

PC-301 Modern Physics *(3 credits)* The origins and progress of physics in the 20th century, including relativity and quantum theory with applications in atomic and molecular physics, nuclear physics, elementary particles and solid state physics. Prerequisite: MA-230 or PC-203. (Previously titled Theoretical Modern Physics) *(N)*

PC-302 Experimental Methods *(4 credits)* Real and meaningful experimental methods are developed in this course. A series of weekly experiments will be carried out, each designed to develop specific experimental skills. Skills include learning various lab tools (spectrometers, spectrum analyzers, LabVIEW, Excel, etc), documenting work as it is done, designing & setting up experiments, appropriately and efficiently gathering

data, analyzing results, and problem solving any inconsistencies. Additionally, skills will be gained in time management and effectively using resources. Prerequisites: MA-230 and PC-203.

PC-309 Research Methods *(3 credits)* Many skills developed in Experimental Methods (PC-302) will be revisited and expanded to give stronger and more complete skills used when conducting research, including applied statistics, excel and other tools. Individual and team projects will be carried out that involve researching, designing, conducting, and analyzing experiments. Students will also decide on and prepare for their future capstone project including thoroughly researching it, writing a review paper, and presenting it. Prerequisite: PC-302.

PC-315 Nanoscience *(3 credits)* Nanoscience explores how materials behave when matter is reduced to the atomic scale. This course examines atomic clusters, 2D materials, surfaces, interfaces, and nanoparticles, with applications spanning physics, chemistry, and biology. Topics include batteries, solar cells, crystallography, defects, and condensed matter, alongside hands-on modern characterization techniques. Both historical milestones and emerging technologies are discussed. Prerequisite: MA-130.

PC-317 Medical Physics *(3 credits)* This course aims to teach some fundamental physics principles and apply them to better understand the body, medicine & other biosciences. This will include biomechanics, instrumentation, medical conditions, diagnostic techniques and therapeutic treatments practiced today or under development (e.g. imaging, lasers, ultrasound, EKG). Geared toward health professions students and others interested in instrumentation or applied physics. Prerequisite: BI-101 or PC-200 or PC-202 or PC-204.

PC-320 Engineering Mechanics I: Statics *(3 credits)* A problem-solving approach to applied mechanics involving equilibrium of co-planar and non-planar force systems, analysis of frames and trusses, friction, centroids and moments of inertia. Prerequisite: PC202 or PC204. *(N)*

PC-321 Engineering Mechanics II: Dynamics *(3 credits)* A problem-solving approach to applied mechanics involving the kinematics and kinetics of particles and rigid bodies. Techniques involving Newton's laws, work-energy and impulse momentum are presented and used extensively. Prerequisite: PC320. *(N)*

PC-340 Mathematical Methods in Physics *(3 credits)* An introduction to the mathematics used in advanced physical science courses. The emphasis is on early exposure to mathematical techniques and their applications rather than on rigorous derivation. Topics include series analysis, complex variables, theory, matrix mechanics, ordinary and partial differential equations, vector and tensor analysis, and Fourier series. Prerequisites: PC203 and MA230. *(N)*

PC-350 Thermal Physics *(4 credits)* An intermediate level course treating the concept of temperature and its measurement, the concepts of heat and work, the laws of thermodynamics, applications of these concepts to physical systems, the elements of statistical mechanics and as many topics of current concern as time allows. Prerequisites: MA-235 and PC-301. (Formerly titled: Thermodynamics) *(N)*

PC-355 Physics Research *(1-3 credits)* PC-355 is a supervised, independent research course in physics intended for students pursuing research experience outside of the capstone framework. Students work closely with a faculty mentor to design and carry out an original or applied research project appropriate to their level of preparation. The course emphasizes research skills, professional responsibility, and sustained engagement with a scientific problem. Requires instructor permission.

PC-399 Special Topics *(1-4 credits)* Intermediate to advanced level treatment of a variety of areas within physics such as solid state physics, astrophysics, general relativity, and medical physics. Note: Students may take each ST: course for credit.

PC-402 Quantum Mechanics *(4 credits)* This course continues the discussion of the Schrodinger Equation, the particle-in-a-box, the harmonic oscillator, angular momentum, the hydrogen atom, and electron spin started in PC-301 and/or CH-305, but at a level that is mathematically much more detailed and proceeds from the postulates of quantum mechanics in a logical manner. With this beginning, the course then focuses on more complex problems such as the behavior of multi-electron atoms and molecules. Issues of the meaning of measurement such as embodied in the EPR paradox, the Bell Inequality, and the interpretation of associated experiments are also discussed. The course is heavily problem oriented requiring a strong mathematical background. Prerequisites: MA-235 and either PC-301 or CH-305. *(N)*

PC-410 Classical Mechanics *(4 credits)* A study of classical mechanics including Newtonian, Lagrangian and Hamiltonian approaches. Emphasis is placed on developing the student's ability to analyze physical problems involving particles, systems of particles and rigid bodies. Insight is provided into a variety of techniques for solving such problems. Prerequisites: PC-301 and MA-235. (Formerly titled: Mechanics) *(N)*

PC-430 Optics *(3 credits)* The wave theory of light as applied to interference, diffraction, polarization, and image formation. Major emphasis on Fourier techniques. Study of geometrical optics, quantum optics, and radiometry as time permits. Prerequisites: PC300 or PC301. *(N)*

PC-451 Physics Research II *(1-4 credits)* An opportunity for students to do a more advanced independent research project under the guidance of a faculty member. Prerequisite: by permission. *(N)*

PC-455 Physics & Engineering Physics Capstone *(2-4 credits)* The culminating capstone experience for physics and engineering physics majors, emphasizing analytic and/or creative thinking and depth of disciplinary knowledge. Requires instructor permission and senior class standing.

PC-490 Physics Internship *(1-9 credits)* Requires permission and sophomore, junior, or senior class standing. Corequisite: PC-495. *(N)*

PC-491 Electricity & Magnetism *(4 credits)* A study of electromagnetic phenomena, including electrostatics, electric fields in matter, magnetostatics, magnetic fields in matter, introductory electrodynamics including Maxwell's equations, and electromagnetic waves, potentials, and fields. Prerequisites: PC-301 and MA-235. *(N)*

PC-495 Internship Seminar *(1-6 credits)* Requires students to reflect on the internship experience and/or pursue research related to the placement. Corequisite: PC-490. Requires permission and sophomore, junior, or senior class standing. *(N)*

PC-499 Special Topics *(1-4 credits)* Allows the department to offer titles not normally offered. Prerequisites vary by course.

PC-INS Independent Study *(1-4 credits)*

PC-TUT PC Teaching Assistant *(1-6 credits)* See Catalog.

PHILOSOPHY (PL)

PL-101 Introduction to Philosophy *(4 credits)* This course provides students with the background and conceptual tools that are required for more advanced study in the subject. At the discretion of the instructor, the course will either examine fundamental philosophical problems or provide a survey of important thinkers. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109 *(H, WK-HT)*

PL-103 Life, Death, and Meaning *(3 credits)* The course will explore the meaning of life and death. Our primary concern will be with death, one's own inevitable personal death as it figures in human life and in contributing, or perhaps even detracting from, the meaningfulness of such a life. It will give you a deeper philosophical understanding of the meaning of death, and consequently the meaning of life, which will ultimately bring you into true being and authentic existence. *(H, WK-HT)*

PL-105 Introduction to Logic *(4 credits)* An analysis of practical reasoning skills, including a systematic approach to informal arguments and the meaning of everyday claims. Aristotelian logic, Venn Diagrams, propositional logic and symbolic logic are included. *(H, WK-FR)*

PL-106 Introduction to Ethics *(4 credits)* Examines the historically valid ethical approaches to problems, i.e., pragmatic, relativistic and absolute and the application of such methods to contemporary ethical dilemmas, e.g., abortion, terrorism, euthanasia, and capital punishment. *(H, SW-ER)*

PL-199 Special Topics *(1-4 credits)* Allows the departments to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

PL-205 Ancient Philosophy *(4 credits)* This course is a historical survey of ancient Greek philosophy which will cover representative figures (including the major pre-Socratics, Plato, Aristotle and important authors/movements from the Hellenistic period, such as Epicurus, Stoicism and Skepticism). Prerequisite or corequisite: FYC-101 or EN-110 or EN-109. *(H, CW, WK-HT)*

PL-208 Symbolic Logic *(4 credits)* An introduction to the basics of first-order logic: the concept of artificial language, techniques for symbolizing ordinary languages and arguments, formal inference systems (either truth- free method or natural deduction), and other advanced topics in first-order logic. It has no prerequisites beyond high school algebra. *(N, H, WK-FR)*

PL-230 Business Ethics *(3 credits)* Asks the student to examine his/her personal values relative to those professional values of the business world. In particular, students will examine the claims of society, government, labor, management as they impact upon the individual who contemplates a career in the business world. Issues such as safety in the workplace, the right to privacy, and the obligations of the corporation to its employees, its customers, and to society itself will be covered. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109 *(H, SW-ER)*

PL-235 Ethics of Health Care *(4 credits)* This course is a seminar-style course in 'professional ethics'. It will explore the various codes, value assumptions, and dilemmas faced by those who practice the health care professions. Specific topics (or dilemmas) will be determined by each class, based upon the specific POEs of the enrolled students. Pre-req or co-req: FYC-101 or EN-110 or EN-109 *(H, SW-ER)*

PL-250 Science and Human Values *(4 credits)* This course examines the reciprocal influence between science and social values, from the perspective of the humanities. It asks, "What good is science?" Through selected readings and discussion, students consider how everyday life is shaped by scientific innovation and technology, just as society provides a framework of cultural values for science. Prereq or coreq: FYC-101 or EN-110 or EN-109 *(H, WK-HT, CTGES)*

PL-260 Philosophy of Science *(4 credits)* Lays out some central philosophical problems raised by natural sciences. The possible topics to be discussed: Is science rational and objective? Does science really make progress? If so, in what sense? How to distinguish science from pseudoscience. Is science superior knowledge to other types? What is a good scientific explanation? Could we ever know about unobservable

physical entities and events? Is it ever legitimate to regard a scientific theory as true? Prereq or coreq: FYC-101 or EN-110 or EN-109 *(H, WK-HT, CTGES)*

PL-265 Environmental Ethics *(4 credits)* As the life-support system for everyone, the environment is unquestionably of high value. Yet decisions about its care and its uses evoke controversy. This course explores contrasting viewpoints and practices that impact the earth and its plant and animal life. Through readings, projects, and critical discussion of cases, students apply ethical theories to selected contemporary issues. Prereq or coreq: FYC-101 or EN-110 or EN-109 *(H, SW-ER)*

PL-270 Ethical Theory *(4 credits)* This course will provide students with an introduction to important debates in contemporary ethical theory (including debates about the epistemic status of moral claims and moral relativism). It will also introduce students to important normative frameworks within contemporary ethics (such as virtue ethics, utilitarianism, deontology, Confucian ethics, feminist ethics, etc.). Prerequisite: FYC-101 or EN-110 or EN-109 *(H, SW-ER)*

PL-275 Modern Philosophy *(4 credits)* Selections from the founders of the twin pillars of modernity, i.e., Modern Philosophy (F. Bacon, Descartes, Leibniz, Spinoza, Locke, Berkeley, Hume, and Kant) and Modern Science (Copernicus, Spinoza, Galileo, Pascal, Newton, and Boyle) are studied with an emphasis on the philosophical origins of modern psychology and the epistemic foundations of contemporary scientific methodology. Prereq or coreq: FYC-101 or EN-110 or EN-109 *(H, CA, CW, WK-HT)*

PL-299 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

PL-304 Existentialism *(4 credits)* This course provides students with an introduction to the major philosophers and themes associated with existentialist thought. Through a critical engagement with authors such as Kierkegaard, Nietzsche, Heidegger, Sartre, and Camus (among others), we will explore questions concerning human freedom, alienation, authenticity, and mortality. Pre-or Co-Req: FYC-101 or EN-110 or EN-109. *(H, CW, WK-HT)*

PL-308 End of History, Death of God *(4 credits)* Formerly titled "Hegel to Nietzsche." This course provides an introduction to important philosophical discussions in nineteenth-century philosophy and political thought centered around the Hegelian/Marxist themes of history's end and Nietzsche's attempt to grapple with the implications of what he called "the death of God." Prerequisite or corequisite: FYC-101 or EN-110 or EN-109. *(H, CW, WK-HT)*

PL-310 Contemporary Political Philosophy *(4 credits)* This course will focus on important political orientations and figures in the twentieth/early twenty-first century. Instructors may also focus on specific topics which have driven recent debates in contemporary political philosophy, including distributive justice, the normative foundations of liberalism/democracy or the tension between state sovereignty and international law (among others). Prerequisites: Take 1 course from the PL department or permission of the instructor. *(S, H, CW)*

PL-318 Knowledge, Truth and Skepticism *(4 credits)* The course is a study of the nature of human knowledge and justification of beliefs with special attention to three conceptually related topics: the nature and value of knowledge and the nature and structure of epistemic justification, the nature of truth, and the challenges from skepticism and influential responses to it. Prerequisites: Take any 1 Philosophy course, or by instructor consent. *(H, WK-HT)*

PL-322 Freedom and Consciousness *(4 credits)* This course provides students with an introduction to perennial debates concerning the nature of consciousness. It also explores questions concerning the existence of free-will, including (but not limited to) the problem of whether/how we would need to modify our approach to legal and moral accountability if we fully embraced determinism. Pre- or co-requisite: FYC-101 *(WK-HT)*

PL-399 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

PL-450 Senior Thesis *(3 credits)* Students will engage in independent research and write a substantial final paper which evidences sustained engagement with the secondary literature on a topic selected in consultation with faculty members. This course is designed as a capstone experience. Prereqisite: Senior standing. *(H)*

PL-490 Philosophy Internship *(1-9 credits)* Requires permission and sophomore, junior, or senior class standing. Corequisite: PL-495.

PL-495 Internship Seminar *(1-6 credits)* Requires permission and sophomore, junior, or senior class standing. Corequisite: PL-490.

PL-INS Independent Study *(1-4 credits)*

POLITICS (PS)

PS-001 Non-Credit Political Science Internship *(0 credits)* Provides students an overview of an organization as well as providing an opportunity for practical application of the skill developed in students' area of concentration. Note: See the chapter "Special Programs" under Internships listed as Internship: (Title); must be 6 weeks long. Prerequisite: permission.

PS-101 Introduction to U.S. Government *(4 credits)* An introduction to the theory and practice of United States government. The course surveys the underlying structure of U.S. politics, its economic, cultural and legal foundations and the daily practice of politics, e.g. groups, parties, and the mass media. Requisite: FYC-101, EN-110, or EN-109 must be taken prior to or concurrently with this course. *(S, WK-SI)*

PS-102 Introduction to International Politics *(4 credits)* In this course we examine some of the dominant theoretical frameworks in international relations. We examine the most powerful international organizations. We assess these from the perspective of non-Western cultural frameworks. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109. *(S, I, SW-GE)*

PS-110 Exploring the Law *(1 credits)* An introduction to the legal profession, exploring the process of applying to law school, the variety of jobs in law, and how an undergraduate program can best prepare students for success.

PS-125 Citizenship *(4 credits)* What do citizens owe to fellow citizens at the local, national, and global levels? This course contemplates this question by examining the role of citizens in civil society. It examines citizens' social responsibility to others. It fosters each citizen's sense of empathy toward other citizens (including toward citizens living in different circumstances or having different worldviews) by exploring the social contexts of public policy problems. Using ethical reasoning, citizens will understand the ethics of citizenship in different settings and traditions. Citizens will consider the ramifications of enacting alternative

public policies on the well-being of fellow citizens and of civil society. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109. *(SW-ER)*

PS-155 Lobbying *(1 credits)* Students learn about lobbying in the United States and Pennsylvania, including the national and state constitutional provisions that permit and restrain lobbying. Students study and discuss lobbying techniques and ethics and the place of lobbying in the broader context of American and Pennsylvanian politics. Students will practice their lobbying skills both in class and in Harrisburg. *(S)*

PS-190A Mock Trial *(3 credits)* A study of elements related to the preparation of a trial through the Mock Trial setting governed by the American Mock Trial Association. Students will learn the preparation of pleadings, applicable case law to the case presented, and obtain knowledge of the Rules of Evidence. Each year, Mock Trial is offered as PS-190A during the fall semester for 3 credits and PS-190B during the spring semester for 1 credit. *(CS)*

PS-190B Mock Trial *(1 credits)* A study of elements related to the preparation of a trial through the Mock Trial setting governed by the American Mock Trial Association. Students will learn the preparation of pleadings, applicable case law to the case presented, and obtain knowledge of the Rules of Evidence. Each year, Mock Trial is offered as PS-190A during the fall semester for 3 credits and PS-190B during the spring semester for 1 credit. Pre-Req: PS-190A *(CS)*

PS-199 Special Topics *(1-4 credits)* Allows the departments to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

PS-205 Politics in Film *(4 credits)* This course is designed as an introduction to the study of ethical ideas as presented in motion pictures. We will look both at the direct representation of political ideas or points of view (especially through satire), and at the way Hollywood has shaped our ideas about the process of ethical decision-making. Pre-Req: FYC-101 or EN-110 or EN-109. (Formerly numbered as PS-305.) *(H, F, SW-ER)*

PS-206 The Culture War *(4 credits)* Both the United States public and policymakers are divided by competing core political and cultural values. This course examines this divide and the strategies used to shape resulting policy outcomes. Pre- or Co-Requisite: FYC-101 or EN-110 or EN-109. *(CA, S, SW-US)*

PS-208 Policy and Community *(4 credits)* In this course, students will engage in the policymaking process in Huntingdon. In conjunction with local policymakers, students will research a community problem and make policy recommendations based on that research. Class discussions will focus on common community issues in America (such as environmental and healthcare problems) in addition to research methods and local policymaking processes. Prerequisite or corequisite: FYC or CWS *(SW-LE)*

PS-209 Sexual Politics *(3 credits)* In this course, we will discuss sex and gender in political theory and practice. In part one, we will discuss key concepts needed to understand sex and gender politics in the United States. In part two, we will build on this knowledge by exploring sex/gender/sexuality issues in our current political environment. Pre- or Co-Req: FYC-101 or EN-110 or EN-109. *(S, WK-SI)*

PS-218 Public Policy & Admin. *(3 credits)* An introduction to the study of public policy and its administration. The course explores the ways which power, knowledge and institutions shape adoption and evolution of public policies in western democracies. Focusing on various policy areas, the course also surveys the public bureaucracies that administer these policies, examining what government agencies do and why they do it, and assesses alternatives to public bureaucracies. Prerequisite: PS101. *(S)*

PS-221 American Political Thought *(4 credits)* Covers development of American Political Thought from the Revolution to the modern-day. Special attention is given to the tension between liberty and equality in our system, especially as those tensions are revealed in writings of women and African-American writers. *(H, CW, SW-US)*

PS-222 Western Political Thought *(4 credits)* Surveys selected works of philosophers from Plato to Nietzsche. The course will focus on enduring questions -- what is the good, the nature of the best regime, how do freedom and authority intersect, and so on. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109 *(H, WK-HT)*

PS-230B Presidential Inauguration *(1 credits)* This course is an experiential education opportunity that takes place in Washington, D.C. every four years during the inauguration of the president. The seminar culminates in the public events that comprise the presidential inauguration. Requires consent of the instructor and pre-payment of required course fees. *(S)*

PS-230C Inside Washington, D.C. *(1-2 credits)* This course is an experiential education opportunity that takes place in Washington, D.C. It is an intense seminar that features presentations by leading academics and practitioners about politics and the media, congressional elections, and presidential/congressional relations. The seminar includes site visits to embassies, government agencies, think tanks, media outlets, etc. with the aim of providing first-hand opportunities to witness government decision-making in action, as well as the efforts others on The Hill who try to influence government outcomes. Requires consent of the instructor and pre-payment of required course fees. *(S)*

PS-230E National Security *(1 credits)* This course is an experiential education opportunity that takes place in Washington, D.C. It is an intense, week-long academic seminar. Students explore the inner workings of the U.S. national security landscape with nationally recognized journalists, politicians, political analysts, and scholars as your guides. The course expands knowledge of American and international politics through on-site visits to such places as Capitol Hill, executive agencies, embassies, think tanks, and media organizations. Students engage in and network with nationally and internationally recognized public officials and business professionals to develop a sense of civic engagement and enhance leadership skills. Requires consent of the instructor and may require pre-payment of required course fees. *(S)*

PS-235 Migration *(2 credits)* This is a two-course series (PS-235/236). The pre-departure course (PS-235) examines the full range of policy issues related to migration in North America. The summer term course (PS-236) includes travels to southern Mexico, where professors and students from the Autonomous University of Chiapas (UNACH) will help students to gain first-hand insight into Mexico's migration policies through lectures, discussions, and visits to government migration detention centers. In addition to learning from the UNACH scholars, students will learn about Mexican culture from their homestay families. NOTE: The total fee for the experience is split between the two courses, with the majority of the fee on the spring semester billing and a $250 administrative fee on the summer term billing. *(I, S, SW-GE)*

PS-236 Eyewitness to Migration in Mexico *(2 credits)* This is a two-course series (PS-235/236). The pre-departure course (PS-235) examines the full range of policy issues related to migration in North America. The summer term course (PS-236) includes travels to southern Mexico, where professors and students from the Autonomous University of Chiapas (UNACH) will help students to gain first-hand insight into Mexico's migration policies through lectures, discussions, and visits to government migration detention centers. In addition to learning from the UNACH scholars, students will learn about Mexican culture from their homestay

families. NOTE: The total fee for the experience is split between the two courses, with the majority of the fee on the spring semester billing and a $250 administrative fee on the summer term billing. *(I, S, SW-GE)*

PS-238 Refugees *(1 credits)* This online course focuses on the international protections afforded to refugees and is offered in partnership with the Autonomous University of Chiapas (UNACH) and the Office of the United Nations High Commissioner for Refugees (UNHCR). The primary language of instruction is Spanish, and students should be proficient (though not necessarily fluent) in Spanish.

PS-241 European Politics *(3 credits)* Examines the modern history, political culture, institutions and policies of the major West European states. Britain, France, West Germany and the European Communities are compared along with selected other countries. The major problems confronting these are highlighted. Prerequisite: PS101 or PS102. *(S, I)*

PS-243 U.S. Foreign Policy *(3 credits)* Examines U.S. Foreign Policy from the Monroe Doctrine to the New World Order. Special emphasis is given to the tension between isolationism and globalism in this century. The course will focus on contemporary issues such as: the relationship with the UN, the U.S. as a global policeman, and the role of human rights as an American priority. Prerequisite: PS102. *(S, I)*

PS-249 Senegambia I *(2 credits)* In the pre-departure course (PS-249) on campus, we study and discuss Gambia's history and contemporary politics and culture. This is followed by a short-term study abroad course(PS-25), during which we spend three weeks exploring the political culture and society of The Gambia. Students must complete both PS-249 and PS-250 to fulfill the Cultural Analysis or Global Engagement requirements. *(I, S, CA, SW-GE)*

PS-250 Senegambia II *(2 credits)* These courses (PS249 and PS250) are co-requisites. In the fall semester, we study and discuss Gambia's history and contemporary politics and culture. During the winter break, we spend three weeks exploring the political culture and society of The Gambia. Corequisite: PS250. Students must complete both PS249 and PS250 to receive CA credit. If you want to get Global Engagement credit, after returning from the trip you must complete a 1-credit course that has been approved by the Global Education Committee. *(CA, I, S, SW-GE)*

PS-289 Politics and the Media *(4 credits)* This course has two components. First, it looks at the interaction of politics and the media in the context of the United States. Students will learn about how politicians use the media and about how the media covers politics. Second, it is designed to help students hone their research and writing skills. The class involves extensive class discussion, applications of course materials to contemporary coverage of American politics in the media, and instruction about research and writing. Students will be required to pay close attention to the interaction of politics and the media during the course of the semester.Prerequisites: PS101. *(S, CW)*

PS-291 Mexican Fulbright Special Topics *(1-3 credits)* This comparative politics course will provide a significant degree of attention to the operation of society and government in a country other than the United States. It will focus on a people and culture outside of the U.S. or on a global challenge. The course will often relate to Mexico or to U.S.-Mexico relations. The specific topic of this course will be determined based on the interests of the Mexico Studies Chair and the needs of the Politics Department. This course is taught by the Fulbright professor from Mexico. *(I, S, SW-GE)*

PS-298 Gender and Health Care *(3 credits)* In this course, we will discuss gender and healthcare policy around the world, focusing on the ethical responsibilities of healthcare policymakers and providers. We consider how gender affects policy and health outcomes in various ways, depending on the cultural context.

Class discussions will address topics such as reproductive rights and LGBTQ healthcare access. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109 *(SW-ER)*

PS-299 Special Topics *(1-4 credits)* Offers supplements to the regular departmental program, exploring topics and areas not regularly scheduled. Note: Students may take each ST: course for credit. *(I, S)*

PS-311 Constitutional Interp: Powers of Govt Government *(4 credits)* An examination of the three branches of government, their constitutional powers, and the limitations on those powers as interpreted by Supreme Court. Special attention is given to the areas of delegated and concurrent powers. The operation of the Supreme Court and the Federal court system are also reviewed. Prerequisite: PS-101. *(H)*

PS-312 Constitutional Interp.: Civil Rights Rights *(4 credits)* Examines citizen's rights and liberties which the Constitution protects against infringement by the government. Those freedoms enumerated in the Bill of Rights are reviewed as well as the right to privacy, due process, and equal protection. Prerequisites: PS101 or permission. *(H, CW)*

PS-313 Congress and Presidency *(4 credits)* Examines the intellectual and constitutional foundations of Congress and the Presidency, and the evolution of their powers and responsibilities. The course also explores how, through cooperation and confrontation, the institutions make decisions about war and peace, spending, and taxation. Prerequisite: It is recommended that students take PS-101 prior to this course, but not required. *(S, CW)*

PS-318 Parties, Elections & Campaigns *(3 credits)* Examines the role political parties and elections play in democratic theory and practice in the U.S. Topics include party systems in the U.S., history, party organization, comparisons with parties in other countries, electoral competition, and elite mass linkages. Contemporary issues such as campaign finance, campaign strategy, and the role of the mass media are also explored. Prerequisite: PS101. *(S)*

PS-320 Topics Political Philos & Jurisprudence *(3 credits)* Examines specific topics in the area of political philosophy and law. Topics will include "Foundations of American Constitutionalism," "African-American Social and Political Thought," "Liberalism,"and "Shakespeare's Politics." Students may take each course for credit. *(H)*

PS-325 Health Policy *(3 credits)* In this seminar course, we will discuss health policy, focusing on issues in the United States. We will discuss how health policy is made at the federal and state level. We will look at major health care-related programs in the United States, federal agencies that affect the health of Americans, and state-level health policy. Pre- or co-requisite: FYC-101 or EN-110 or EN-109. *(WK-SI)*

PS-330 TPP: Topics in Public Policy *(3 credits)* Examines the formation and implementation of public policy by an in-depth focus on a single policy area. The course will investigate a particular policy area for the semester, such as environmental policy or health care policy. Policy study will include analysis of interest groups, public opinion, congressional committees and federal agencies. Research and analytical exercise will be emphasized. Prerequisite: PS101. *(S)*

PS-334 Human Rights *(3 credits)* This class focuses on some of the debates concerning human rights: realism versus idealism; individualism versus communitarianism; universalism versus relativism; religious fundamentalism versus secularism; women's rights as human rights; liberalism versus socialism. We review the historical evolution of human rights. We devote part of the semester to the role of literature and the arts in creating and promoting human rights. Prerequisite: PS102. *(I, S)*

PS-335 Law of Nations *(3 credits)* This course explores the substance of modern international law. Course topics may include the Vienna Convention, the UN Charter, the Law of the Sea Convention, the Rome Statute, the International Court of Justice, and the International Criminal Court. The course also explores how nation states interact with these bodies under their internal laws and customary international law. Prerequisite: PS 102. *(I, S)*

PS-340 Topics in International Politics *(1-4 credits)* Examines international politics in light of a specific topic or issue. The topics include themes such as: Global Environmental Politics, Nationalism, and Competing World Ideologies. *(S, I)*

PS-346 African Politics *(3 credits)* This course examines some of the factors that explain the political problems that plague Africa. Topics include: colonialism, human rights, corruption, ethnicity and pan-Africanism. Prerequisite: PS102. *(I, S, CW)*

PS-389 TWC: Washington Special Topics *(1-4 credits)* This course is for students participating in the Washington Center's internship program in Washington, D.C. Each student will select one of several courses offered by the Washington Center upon acceptance into the program. The title of this Special Topics course will vary according to the course the student enrolls in through the Washington Center.

PS-399 Special Topics *(1-4 credits)* Offers supplements to the regular departmental program, exploring topics and areas not regularly scheduled. Examples include Religious Revivalism in the Third World, Race, Religion and Gender in American politics and Nationalism in Europe. Note: abbreviated ST:(Title); students may take each ST: course for credit.

PS-490 Politics Internship *(1-9 credits)* An opportunity to apply concepts and theories learned in class and readings to a practical situation. Note: may be repeated up to a total of 9 hours credit. Corequisite: PS-495. Must have permission and sophomore, junior, or senior standing. *(S)*

PS-491 Washington Center Internship *(2-9 credits)* Internship at The Washington Center in Washington, DC. Requires instructor permission. Corequisite: PS495. *(S)*

PS-492 Harrisburg Legislative Interns *(1-9 credits)* A unique opportunity to experience the legislative process. Placements are made to the research staffs of various committees (e.g., Banking and Commerce, Education, Judiciary, Local Government and Urban Affairs) of the Pennsylvania House of Representatives. Committees are selected on the basis of student interests and needs in the Legislature. Corequisite: PS-495. Prerequisite: Permission and Sophomore, Junior, or Senior standing. *(S)*

PS-495 Internship Seminar *(1-6 credits)* The emphasis is on connecting the internship experience with student's Juniata coursework. Students will develop the knowledge, skills, and ethical perspectives they need to engage effectively with the local communities through meaningful contributions and reflection. Co-Requisite: PS-490, PS-491, or PS-492. Must have sophomore, junior, or senior standing. *(S, SW-LE)*

PS-497 Honors Research I *(3 credits)* Designed to offer exceptional students the opportunity to engage in an extensive undergraduate thesis or research project. Selected students will be invited by the faculty of the department to propose a subject of special interest to the students; working closely with at least one member of the department, students will develop and complete a research project in the first semester and present the results as a publishable paper in the second. Available by permission. *(S)*

PS-498 Honors Research II *(3 credits)* Designed to offer exceptional students the opportunity to complete the research paper started in PS497. Prerequisite: PS497. *(S)*

PS-499 Senior Seminar *(3 credits)* Intended as a capstone experience in the discipline and designed to engage students in their final year in the comprehensive study of a major question or issue confronting the discipline of political science. Prerequisites: PS101 or PS102 or PS222 and senior standing and three additional Political Science courses or departmental permission. *(S)*

PS-INS Independent Study *(1-4 credits)* See catalog.

PS-TUT Political Science Teaching Assistant *(1-4 credits)* See Tutorial in the catalog. *(S)*

PSYCHOLOGY (PY)

PY-001 Non-Credit Psychology Intern *(0 credits)* Provides student and overview of an organization as well as providing an opportunity for practical application of the skill developed in student's area of concentration. Note: see the chapter "Special programs" under Internships; listed as Internship: (Title); must be 6 weeks long. Prerequsites: Permission.

PY-101 Introduction to Psychology *(3 credits)* An overview of the content and methodology in the field. Topics such as the history of psychology, physiological psychology, learning and memory, perception, motivation, child development, personality and social foundations are considered *(S)*

PY-190 Introduction to Poverty Studies *(3 credits)* The Introduction to Poverty Studies course will offer students an interdisciplinary exposure to the study of poverty, challenging them to explore the ways in which factors such as class, culture, race, gender, and geographic place operate to form an interrelated system that produces poverty and alters the trajectory of many important life outcomes. Among other course objectives, students will gain an evidence-based understanding of theoretical models of poverty and the ways in which poverty manifests differently within this country and across the globe.

PY-199 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites and fees vary by title.

PY-202 Personality *(3 credits)* A consideration of representative approaches to the study of human personality, beginning with standard theoretical approaches and their applications. This is followed by a consideration of selected topics within the field of personality, e.g. aggression, sexuality, dependency, and competence. Prerequisite: PY 101 *(S)*

PY-203 Abnormal Psychology *(3 credits)* A brief consideration is given to the historical approaches to "mental illness," followed by a consideration of present day classification, diagnostic measures, and therapy. Emphasis throughout is upon experimental data as applied to the various disorders. Prerequisite: PY101. *(S)*

PY-205 Social Psychology *(3 credits)* The study of human interaction and interpersonal relationships, including selected areas of current research and theory such as social perception, interpersonal communication, attitude formation and change, conformity, aggression, and interpersonal attraction. *(S)*

PY-210 Psych Professional Development Seminar *(1 credits)* This course explores professional opportunities in the field of psychology and related fields. You will assess your professional skills and interests and create materials needed for a successful internship, job, or graduate school search. We also will explore how professional knowledge and skills can be shared as future engaged and effective members of communities. *(S)*

PY-211 Race, Ethnicity, and Identity Studies *(3 credits)* This course explores the constructs of race, ethnicity, and identity with a focus on how they help us understand ourselves, societies, and the relationship between self and society. The course explores race, racism, antiracism, equality, and hierarchy. As a Social Inquiry course, this course emphasizes social scientific methodologies to address these topics. Pre- or Co-Req: FYC-101 or EN-110 or EN-109. *(S, WK-SI)*

PY-216 Public Health *(4 credits)* This seminar serves as an introduction to evidence-based public health. The course will utilize public health methodologies to investigate historical and current public health issues. Pre-req or co-req: FYC-101 or EN-110 or EN-109. *(S, N, WK-SP)*

PY-238 Biopsychology *(3 credits)* Focuses on neurobiology and neuroanatomy as they relate to sensory processes, motivation, reinforcement, learning, and memory. Prerequisite: PY-101 or BI-101 or BI-105. *(S, N)*

PY-270 Cognitive Neuroscience *(3 credits)* Focuses on the neural mechanisms of mental processes including sensation and perception, attention, memory, reasoning, and decision making. Topics include basic neuroanatomy, functional imaging techniques, and evidence from neurotypical and clinical populations. Prerequisites: PY101. *(S, N)*

PY-299 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

PY-302 Moral Judgment *(3 credits)* This course will cover basic issues relevant to understanding and evaluating moral judgment. We will compare philosophical models of human judgment with psychological models of human judgment. You will apply both philosophical and psychological models to contemporary ethical issues and reflect on your own beliefs and social responsibilities. *(S, SW-ER, CTGES)*

PY-303 Learning & Conditioning *(3 credits)* Explores the issue of how we are changed by experience, using primarily a behaviorist perspective, applied to animal and human data. Both theory and applied applications of theory will be considered. Prerequisite: PY101. *(S)*

PY-304 Cognitive Psychology *(3 credits)* Explores an array of issues in human memory, primarily from a cognitive/information processing point of view. Major emphasis is on using research data to formulate answers to both theoretical and applied questions. Prerequisite: PY101. *(S)*

PY-312 Cultural Psychology *(3 credits)* Cultural psychology is the scientific study of how cultural norms influence how individuals think, feel, and behave. Cultural psychologists study the ultimate social situation: culture. Questions from this field are relevant to our everyday lives and are important in shaping our understanding of ourselves and views of others. *(S)*

PY-321 Health Psychology *(4 credits)* Course will examine empirical findings from disciplines of psychology, medicine, and public health. Course topics include research methods, stress and social support, health behavior and primary prevention, management of chronic/terminal illnesses, gender and cultural issues in health, and psychoneuroimmunology. An underlying theme will be to dispel health-related myths and fads that are so prevalent in the popular media. Prerequisites: PY101. *(S)*

PY-322 Sport Psychology *(3 credits)* This course provides an overview of sport psychology. Students will gain insight into the psychological processes involved in sport and other fields involving human performance. Topics such as motivation, arousal and stress, burnout, skill acquisition, team dynamics, and psychological skills training will be explored as they relate to maximizing our ability to perform at a high level. Pre-Req: PY-101 *(S)*

PY-340 Research in Psychology *(2 credits)* Allows students to become involved in an ongoing research program. Students will be required to read primary literature from the specific field of investigation and become involved in execution of an ongoing experiment. Students will be expected to perform the activities relevant to the experiment, assist in the analysis of the data, and write an APA style paper based on the results of the experiment. Prerequisites: PY101 and permission. Repeatable up to 3 times. *(S)*

PY-341 Research in Psychology *(2 credits)* Allows students to become involved in an ongoing research program. Students will be required to read primary literature from the specific field of investigation and become involved in execution of an ongoing experiment. Students will be expected to perform the activities relevant to the experiment, assist in the analysis of the data, and write an APA style paper based on the results of the experiment. Prerequisites: PY101 and permission. Repeatable up to 3 times. *(S)*

PY-350 Developmental Psychology *(3 credits)* This course is designed to integrate core topics in the discipline of developmental psychology with current key issues in society. Consequently, students will have the opportunity to analyze scientific literature and make connections to current, everyday life issues. Additionally, students will have the opportunity to explore developmental theory and its connection to public policy, known as "best practices" in parenting and education and consider developmental theory's influence on current trends in our broader society. Prerequisites: PY101 or ED120 or ED130. *(S)*

PY-366 Research Methods & Statistics *(4 credits)* Introduces the methodological skills necessary for conducting research and for becoming a better consumer of psychological science. Students will learn to think critically about claims and accurately summarize primary source articles about behavior. Students will learn statistical concepts commonly used to evaluate data, how to effectively communicate research, and make ethical judgments informed by APA ethical standards. Prerequisite: PY-101

PY-370 Intro Counseling Theories & Techniques *(3 credits)* This course is an introduction to major theoretical perspectives and practice techniques employed in contemporary counseling and therapeutic environments, with an emphasis on individual and group processes. In addition to practical application activities (e.g., motivational interviewing), students will also be introduced to techniques and requirements necessary for establishing an appropriate therapeutic relationship and becoming a skilled helper, including ethical/legal considerations, consultation, referral, crisis counseling, and counseling research. By the end of the course, students should have a broad knowledge of counseling theories/theoretical orientations, basic counseling skills, and philosophies that support the building and maintenance of therapeutic relationships. *(S)*

PY-375 Psychology of Emotion *(3 credits)* This course introduces the scientific study of emotion (Affective Science). It examines the historical and philosophical origins of emotion but focuses on contemporary theories, concepts, and methods of study in emotion science; the relationship between emotion, cognition, and the brain; and variation in emotion phenomena related to gender, culture, and group processes. Pre- or Co-Requisite: PY-101 or SO-101 *(S)*

PY-399 Special Topics *(1-4 credits)* Variable: 1-4 credits. Occasional offerings in which a group of students and a professor explore an area of specialized interest in a seminar format. Recent offerings have been "Multicultural Psychology" and "Psychology of Gender." Students may take each ST: course for credit.

PY-401 Comparative Psychology *(3 credits)* Comparative Psychology examines the continuity of behavioral and psychological mechanisms between nonhuman animals and humans suggested by evolutionary theory. Attention is paid to the comparison between human and nonhuman animals on traditionally human

characteristics, including self-recognition, language, culture, tool use, and several other characteristics. Prerequisites: PY-101 or BI-105 or BI-101 plus Junior or Senior class standing. *(S, N, CS)*

PY-402 Evolutionary Psychology *(3 credits)* This course uses the lens of modern evolutionary theory to understand human behavior. We will look for the influence of human evolutionary history on several modern human behaviors including, among others, dating and marriage, aggression, altruism, child-rearing, and behavioral differences between the sexes. Prerequisites: PY101 or BI105 and Junior or Senior standing or permission of the instructor. *(S, N, CS)*

PY-404 School Psychology *(4 credits)* This course explores a scientist-practitioner model for improving learning and educational outcomes for all students. Focus is on the application of psychological principles and research-based models of prevention and intervention to improve outcomes. As a community-engaged learning course, coursework will be applied to a project identified by a community partner as meeting a community need. Pre-req: PY-101. Pre-req or co-req: FYC-101 or EN-110 or EN-109. *(S, SW-LE)*

PY-412 Expertise and Performance *(3 credits)* What makes a great performer great? This course addresses this basic question by exploring various processes underlying skill learning and performance from a psychophysiological and neuroscientific perspective. Throughout the course, a model of effective learning and performance will be developed, discussed, and critiqued, guided by the unifying principle of efficiency. Pre-Reqs: PY-101. *(N, S, CS)*

PY-415 Capstone in Psychology *(3 credits)* The purpose of this course is to assess the skills students acquire during their undergraduate career in the Psychology Department. Students will be expected to produce a written professional work. Pre-Req: PY-101 and senior class standing. *(S, CS)*

PY-490 Psychology Internship *(1-9 credits)* Corequisite: PY-495. Requires sophomore, junior, or senior standing. *(S)*

PY-495 Internship Seminar *(1-6 credits)* This seminar will help you apply concepts from your academic work to your internship experience. It also is designed to enhance your professional, social, cultural, communication, reflective, and critical-thinking skills. We will explore the concept of community, strategies, and skills necessary for engaged community work, and benefits and limits of engagement with others within and across communities. Corequisite: PY-490. Requires sophomre, junior, or senior standing. *(S, SW-LE)*

PY-499 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

PY-INS Independent Study *(1-4 credits)* See catalog.

PY-TUT Psychology Teaching Assistant *(1-5 credits)*

RELIGIOUS STUDIES (RL)

RL-001 Non-Credit Religion Internship *(0 credits)* Provides students an overview of an organization as well as providing an opportunity for practical application of the skill developed in students' area of concentration. Note: See the chapter "Special Programs" under Internships listed as Internship: (Title); must be 6 weeks long. Prerequisite: permission.

RL-110 What Is Religion *(4 credits)* This course serves as an introduction to religious studies. It engages some of the most important questions which preoccupy students of world religions. How do religions work? What kinds of issues does religion address? *(H, CW)*

RL-115 Viking Religion *(4 credits)* This course surveys the history, literature, religion, and culture of the Viking Age. We read the major mythologies of the Vikings, Sagas, and archeological evidence on practical aspects of Viking religious behaviors. We study cultural features such as housing, politics, blacksmithing, and shipbuilding. Pre- or Co-Req: FYC-101 or EN-110 or EN-109. *(H, WK-HT)*

RL-123 World Religions *(4 credits)* This class looks at how global religions engage with contemporary challenges and issues. We will discuss scriptures, rituals, and current events primarily based on sources within each tradition. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109. (Formerly titled Global Religions Today) *(H, I, CS, SW-GE)*

RL-131 Old Testament As History and Literature *(4 credits)* An introduction to the historical-critical reading of the Old Testament against the background of the history, politics, religion, literature, and culture of the ancient Middle East. This course studies how these Israelites texts were written and how their literary qualities shape their religious meanings. *(H, I)*

RL-132 New Testament As History and Literature *(4 credits)* An introduction to the historical-critical reading of the New Testament against the background of the history, politics, religion, literature, and culture of the ancient Mediterranean world. This course studies how these early Christian texts were written and how their literary qualities shape their religious meanings. *(H)*

RL-199 RL Special Topics *(1-4 credits)* An examination of an area of study not regularly included in the departmental offerings. Titles will vary. Students may take each special topics course for credit.

RL-210 Sacred Landscapes *(4 credits)* This course explores the relationship between the experience of geography and religious ideology. We take various environments-mountainous, oceanic, desert, forest, plains-and try to connect the religious thoughts of their inhabitants to the geography. *(H, CTDH)*

RL-230 Religions of India *(4 credits)* An introduction to religions originating in or having a major impact on contemporary India, including Hinduism, Sikhism, and Islam. We will engage with rituals, mythology, and sacred texts from each tradition. The emphasis in this class is on what makes these traditions compelling to the people who practice them. Pre- or Co-Req: FYC-101 or EN-110 or EN-109. *(H, I, CW, SW-GE)*

RL-235 Religion and Nature *(4 credits)* What is the relationship between religious/ spiritual worldviews and the ways humans interact with the natural world? We will examine religious views of nature, wilderness, pollution, and climate change, as well as ways in which these worldviews have led to harm to environmental systems. Students will also spend time examining their own relationships with the natural world. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109 *(H, I, CA, CW, WK-HT)*

RL-250 Women in the Bible *(4 credits)* This course focuses on the female characters in the Bible and on its teachings about the social and religious roles specific to women. The course studies those texts in both their ancient and modern contexts, with special attention to how they interact with culture and explores what meanings those biblical passages can have for women (and men) today. Pre- or co-requisite: FYC-101 or EN-110 or EN-109. *(CA, H, WK-HT)*

RL-265 U.S. Religious Diversity *(4 credits)* The United States has become an increasingly religiously diverse nation, especially since the end of the Asian Exclusion Act in 1965. This course looks at the history of conflict,

cooperation, and power dynamics between different religious groups in the United States, as well as how religious diversity has impacted, and been impacted by, American politics. A particular focus of the class is the intersection of the categories of race and religion. Prerequisite or corequisite: FYC-101 or EN-110 or EN-109. *(CA, H, CW, SW-US)*

RL-299 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

RL-301 The Afterlife *(4 credits)* This upper-level seminar explores questions like these: What do major world religions teach about afterlife? How did the Bible's afterlife beliefs develop historically? Can the soul survive without the body? If so, what would a non-bodily life be like? What do near-death experiences prove about the afterlife? What is the meaning of life if there is (or is not) an afterlife? Pre-Req: FYC-101 or EN-110 or EN-109 *(H, CW, WK-HT)*

RL-302 Atheism *(4 credits)* This upper-level seminar explores questions like these: What are the arguments both for and against the existence of God? What motivates atheists to live morally? What is the meaning of life for atheists? How and why do some atheists practice religion, and how does a religion function without belief in God? How does atheism affect the well-being of individuals and societies? Prerequisite: FYC-101 or EN-110 or EN-109 *(H, WK-HT)*

RL-325 Religion and Gender *(4 credits)* How do different religions think about gender? What are some of the ways that women's voices and those of LGBT+ people contribute to religious life? This class is a seminar on these and related questions.

RL-399 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

RL-440 Yoga Studies *(4 credits)* Yoga has become one of India's best-known exports, primarily in the form of physical (Hatha) Yoga. We will examine many of the numerous varieties of Yoga philosophy and explore how yoga and meditation became popular in the West. Students will learn basic meditation. Must have junior or senior class standing. *(CA, H, I, CW, WK-HT)*

RL-450 God, Evil & the Holocaust *(4 credits)* If God is so powerful and so good, why is there so much Evil in the world? This course examines this problem from Jewish, Christian, and agnostic perspectives, with special attention to the Holocaust, and studies ancient and modern attempts to confront this problem, including readings from the Bible, philosophers, theologians, Holocaust survivors, modern fiction, and contemporary films. Pre-Req: FYC-101 or EN-110 or EN-109, and junior or senior standing. *(H, CW, WK-HT)*

RL-490 Religious Studies Internship *(1-9 credits)* Requires permission and sophomore, junior, or senior class standing. Corequisite: RL-495. *(H)*

RL-495 Internship Seminar *(1-6 credits)* Requires permission and sophomore, junior, or senior class standing. Corequisite: RL-490. *(H)*

RL-499 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

RL-INS Independent Study *(1-4 credits)* See catalog.

RL-TUT Religion Teaching Assistant *(1-3 credits) (H)*

SCHOLARS PROGRAM (SCH)

SCH-290 Leadership Project Seminar *(0 credits)* This Scholars Program course empowers motivated students to design and implement independent projects that demonstrate intellectual leadership and contribute to the academic community at Juniata. Through structured support, including faculty mentorship and peer collaboration, students will develop and execute initiatives that engage campus intellectually while strengthening their résumés for competitive fellowships, summer research opportunities, and internships. The seminar provides a framework for refining ideas, navigating challenges, and maximizing impact as you prepare to extend your influence beyond Juniata.

SCH-390 Fellowship & Proposal Writing Seminar *(1 credits)* This Scholars Program course prepares motivated students to plan and pursue life goals and achieve your potential by extending your intellectual development beyond your Juniata education. The course focuses on constructing effective fellowship and scholarship applications and on gaining admission to graduate school and professional school (law, medical, business, etc.). Together, we will walk through every step of the process, reflecting on and refining your goals, researching and identifying appropriate fellowships and graduate schools, crafting strong curriculum vitae (résumés), writing compelling research proposals and personal statements, interviewing well, and assembling helpful letters of reference.

SOCIOLOGY (SO)

SO-001 Non-Credit Sociology Internship *(0 credits)* Provides students an overview of an organization as well as providing an opportunity for practical application of the skill developed in students' area of concentration. Note: see the chapter "Special Programs under Internships; listed as Intern ship:(Title); must be 6 weeks long. Prerequisite: permission.

SO-101 Introduction to Sociology *(3 credits)* The study of human social groups and the social processes that lead to both structural and cultural integration and differentiation primarily within contemporary American society. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109. *(S, SW-US)*

SO-199 Special Topics *(1-4 credits)* Offered at the discretion of the department to qualified students Topic titles may vary from semester to semester and more than one may be offered per semester. Note: Students may take each ST: course for credit.

SO-203 Minority Experiences *(3 credits)* An exploration of the factors that shape the experiences of minority group members in both domestic and global contexts. The social processes that functions to construct minority identity among racial, ethnic, gender, and ability groups are studied. Prerequisites: SO101 or AN151. *(S)*

SO-204 American Families *(3 credits)* Examines the structure and functions of the family as a vital social institution. Particular emphasis is placed on emerging trends within the family including dual careers, non-traditional families, divorce, and conflict management. Prerequisite: SO101 or AN151. *(S)*

SO-243 Understanding Death, Dying, and Grieving *(3 credits)* This course introduces and explores cross-cultural attitudes, ethical dilemmas and the existential challenges of death and dying. Topics of the course include: self-examination of death attitudes, exploration of death customs and rituals, an overview of the dying process, exploration of difficult topics surrounding death and grief and bereavement. Pre-Req or Co-

Req: FYC-101 or EN-110 or EN-109. Sophomore standing or above required. (Previously titled Death & Dying.) *(S, SW-ER)*

SO-244 Drugs and Society *(3 credits)* This course explores the history of substance abuse, models of addiction, physiological effects of commonly abused substances and treatment effectiveness. Some of the programs that will be examined include the 12-step program. *(S)*

SO-245 Cross-Cultural Perspectives Family Dev *(3 credits)* Cross-Cultural Perspectives on Family Development: This course provides a theoretical, functional, and research-informed approach to studying family life from a cross-cultural perspective. Issues related to marital relationships, parenting styles, work-family life balance, family communication, sexuality and gender, domestic violence, family stress and coping, and aging are addressed using cross-cultural comparison, including comparisons between indigenous and non-indigenous cultures. Pre- or Co-Req: FYC-101 or EN-110 or EN-109. *(S, WK-SI)*

SO-299 Special Topics *(1-4 credits)* Offered at the discretion of the department to qualified students Topic titles may vary from semester to semester and more than one may be offered per semester. Note: Students may take each ST: course for credit.

SO-302 Social Deviance and Criminology *(3 credits)* Examines contemporary psychological and sociological theories of behavior deviation, including crime, delinquency, substance abuse and selected other categories. Typologies for classifying and studying crime are developed and evaluated. Trends in behavior deviation, including the characteristics of offenders and victims, are critically explored. Informal and formal, as well as proactive and reactive, social control systems aimed at managing behavior deviation are described and analyzed. Prerequisites: SO101 or AN151. *(S)*

SO-305 Gender and Society *(3 credits)* This course is designed to explore the history and discourse related to the experiences and sociological definitions of gender roles across global and domestic contexts. Students will participate in critical analysis of the scholarship of gender roles using classical and contemporary works. The course will explore domestic and international experiences of men and women in biological, cultural, economic, environmental and political contexts. Prerequisites: SO101 or PY101. *(S)*

SO-399 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

SO-401 Sociology Senior Seminar *(3 credits)* Sociology Senior Seminar is the capstone course for students who have focused their academic work in the sociological discipline. The course provides an opportunity for students to apply key curricular components previously explored during their undergraduate sociology coursework. The course is a designated service learning and experiential learning course. Students will assume substantial responsibility for the exploration of materials and presentation of those materials to their student colleagues. Students will also interact with campus and community partners during the semester. The course uses a student-led seminar format, coupled with community engagement and service learning components. Prerequisite: Senior standing. *(S)*

SO-490 Sociology/Soc Work Internship *(1-9 credits)* Provides practical experience in a variety of social service agencies. Internships are aimed at developing skills in working with people and social programs. Corequisite: SO-495. Must have permission and sophomore, junior, or senior standing. *(S)*

SO-495 Internship Seminar *(1-6 credits)* Requires students to reflect on the internship experience and pursue research related to the placement. Corequisite: SO-490. Requires instructor permission or sophomore, junior, or senior standing. *(S)*

SO-499 Special Topics *(1-4 credits)* Allows the department to offer subjects not on the normal schedule. Prerequisites vary by title.

SO-INS Independent Study *(1-4 credits)* See Catalog.

SO-TUT Sociology Teaching Assistant *(1-4 credits)*

SPANISH & HISPANIC CULTURES (SP)

SP-001 Non-Credit Spanish Internship *(0 credits)* See Catalog

SP-110 Spanish I *(4 credits)* Emphasizes fundamentals of grammar, pronunciation, and language production. The development of skills in oral comprehension, speaking, writing and reading are stressed. Note: Students receive H or I credit provided that they have not taken more than two years of the language at the secondary school level. *(H, I, SW-GE)*

SP-120 Spanish II *(4 credits)* Spanish 120 is the second part of a three-semester introductory sequence. Its primary goals are to enable students to build their proficiency and attain a broader understanding of Hispanic cultures. Emphasis is placed on the use of the target language in the classroom and the study of culturally authentic materials. Students will achieve greater accuracy with basic language structures. Pre-req: SP110 or placement test. *(H, I, CS, SW-GE)*

SP-125 Spanish Immersion 1-Orizaba *(3 credits)* This course is part of a 4-week summer intensive language program in Orizaba (Mexico) and is the continued study of the fundamentals of Spanish grammar, pronunciation, and language production, with particular focus on listening comprehension and speaking. Prerequisites: SP-120. *(H, I, SW-GE)*

SP-199 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

SP-210 Spanish III *(3 credits)* Spanish 210 is the third part of a three-semester introductory sequence. Its primary goals are to enable students to build their proficiency and attain a broader understanding of Hispanic cultures. Emphasis is on the use of the target language and the study of culturally authentic materials. Students will achieve greater accuracy with basic language structures. Pre-req: SP-120 or placement results. *(H, I, CS, SW-GE)*

SP-215 Mexican Culture *(1 credits)* This course, which is part of a 4-week summer intensive language program in Orizaba (Mexico), will introduce students to the origin, antecedents, and development of present-day Mexico and will expose them to the diversity of its inhabitants and of their cultural practices and production. Prerequisite: SP-120. Corequisite: SP-125, SP-225 or SP-325. *(H, I, SW-GE)*

SP-225 Spanish Immersion 2-Orizaba *(3 credits)* An intermediate Spanish language course, which is part of a 4-week summer intensive language program in Orizaba (Mexico), that reviews the fundamentals of Spanish grammar, pronunciation, and language production, while providing intensive practice that will enable students to achieve mastery of these basic linguistic elements and to further develop their language proficiency. Special emphasis is placed on listening comprehension and speaking. Prerequisite: SP-210. *(H, I, SW-GE)*

SP-230 Spanish Conversation & Composition *(3 credits)* SP230 focuses on continued learning of Spanish through the practice of speaking and writing. Students discuss short films, readings, and topics of interest

from the Hispanic world. Through practice in and outside of class and study of grammatical structures and vocabulary, students will improve their reading and listening comprehension and their speaking and writing competence. Prerequisite: SP210 or placement test results. *(H, I, CW, CS, SW-GE)*

SP-235 Intermediate Spanish Grammar *(3 credits)* This course, which is instructed in Spanish, serves to reinforce the fundamental grammar that students have studied previously and to delve more deeply into grammar topics. Students will study grammar rules and guidelines and will also contextualize and understand them through a look at real-world use of language structures. As they study a formal language system, students will use deductive reasoning to predict which forms are correct. They will also work to improve their ability to communicate and interact effectively in Spanish. Intermediate Spanish proficiency is strongly recommended. (Previously titled Intensive Spanish Grammar.) *(H, I, WK-FR)*

SP-238 Spanish & CEL in Guatemala 1 *(1 credits)* Spanish & Community Engaged Learning in Guatemala, Part 1: In this Community Engaged Learning course sequence (SP-238 and SP-239), students develop a community engaged project aligned with their academic and/or personal interests for an organization in Guatemala during the spring semester course (SP-238) that they then implement during the summer immersion course (SP-239). Completing the SP-238/239 course sequence fulfills the Self & The World-Local Engagement requirement. Requires intermediate Spanish proficiency commensurate with four semesters of college Spanish or equivalent proficiency as determined by instructor. Instructor permission required. NOTE: The total fee for the experience is split between the two courses, with the majority of the fee on the spring semester billing and a $250 administrative fee on the summer term billing.

SP-239 Spanish & CEL in Guatemala 2 *(2 credits)* Spanish & Community Engaged Learning in Guatemala, Part 2: In this Community Engaged Learning course sequence (SP-238 and SP-239), students develop a community engaged project aligned with their academic and/or personal interests for an organization in Guatemala during the spring semester course (SP-238) that they then implement during the summer immersion course (SP-239). Prerequisite: SP-238. Requires intermediate Spanish proficiency commensurate with four semesters of college Spanish or equivalent proficiency as determined by instructor. Instructor permission required. NOTE: The total fee for the experience is split between the two courses, with the majority of the fee on the spring semester billing and a $250 administrative fee on the summer term billing. *(SW-LE)*

SP-245 Spanish Phonetics & Phonology *(3 credits)* This course serves as an introduction to the phonetics and phonology of Spanish. The goals of the course include providing students with a theoretical and practical understanding of the system of Spanish sounds, including dialectal variations, as well as strengthening students' Spanish speech in the direction of more native like pronunciation. Prerequisite: SP210. *(H, I, CS, SW-GE)*

SP-250 Introduction to Hispanic Literature *(3 credits)* Emphasizes the development of skill in reading Spanish and in literary analysis of selected stories, plays, poems, and essays from Spain and Latin America. Prerequisite: SP210. *(H, I, CS, SW-GE)*

SP-255 Contemporary Hispanic Short Fiction *(3 credits)* An intensive introduction to reading and analyzing twentieth-century Spanish and Spanish American short narrative. Study of the literary tests enables students to develop a better understanding of and appreciation for Hispanic cultures while continuing to build their Spanish language proficiency. Prerequisite: SP210. *(H, I, CS, SW-GE)*

SP-257 Hispanic Pop Culture in Poetry *(3 credits)* Students will explore poetic expression in popular culture music genres, including the corrido, tango, nueva cancion, and reggaeton, as well as works of iconic poets.

They will reflect critically on the practice of categorizing art according to dichotomies such high and low-brow, poetic or vulgar, crap or canon. Pre-reqs: SP-230 or equivalent. *(I, H, SW-GE)*

SP-260 Spanish Civilization *(3 credits)* An introduction to the many facets of Spanish civilization: art, music, history, literature, philosophy and everyday life. Prerequisite: SP210. *(CS, H, I, SW-GE)*

SP-265 Contemporary Spain *(3 credits)* An intensive introduction to twentieth and twenty- first century Spain. Topics to be studied include: Spain's peaceful transition from dictatorship to democracy, economic development, and social change. Spain's role in the European Union, mass and elite cultural movements and the challenges facing Spain's younger generation. Prerequisites: SP210. *(H, I, CS, SW-GE)*

SP-271 Enrichmnt After-School for Youth-Spanish *(3 credits)* Through this Local Engagement course, Juniata students will partner with the Huntingdon Area School District to offer language and culture classes to elementary and middle school students. They will design and deliver after-school course content in a dynamic, fun, after-school program designed to introduce students in grades 3-6 to Spanish and the cultures of Spain and Latin America. The course introduces students to best practices in local engagement, our local community, and the opportunities presented by our community partners. During seven weeks of the class, Juniata Students will teach the twice-a-week lessons at the nearby Standing Stone Elementary School. Must have clearances. *(SW-LE)*

SP-272 Spanish for the Healthcare Professions *(4 credits)* This is a course for students who are interested in further developing their Spanish for practice in a healthcare setting. In the course, students will learn colloquial and formal medical vocabulary. They will review intermediate-level grammatical structures and practice how to properly apply these in a healthcare setting. Videos and interviews with Spanish speakers, a Mexican telenovela, and simulated medical situations are just some of the materials used in this intensive course. Students entering the course should have intermediate-level Spanish. It is recommended that they have completed two previous 200-level Spanish courses. *(I, SW-GE)*

SP-273 Hispanic Cultures in Film *(3 credits)* Students will explore various perspectives and practices from Hispanic cultures by viewing, interpreting, and critically and creatively analyzing a series of feature films from Spain and Latin America. Spanish will be the language of instruction and classroom activites will be carried out in Spanish so students can continue developing their Spanish language and Hispanic cultural competence. Intermediate Spanish proficiency is strongly recommended. Pre- or co-requisite: FYC-101. *(WK-CE)*

SP-275 Art and Activism in Latin America *(3 credits)* Studies art --literature, film, music, plastic arts, etc.-- that denounces social injustice and seeks to trigger fundamental reforms in Latin American societies. Known as arte comprometido or committed art in Latin America, selected violence, economic exploitation, racism, and machismo. The course is conducted in Spanish. Prerequisites: SP210 or by permission of the instructor. *(I, H, F, CS, SW-GE)*

SP-285 Introduction to Latin America *(3 credits)* This course offers students an overview of Latin American cultures through the study of their history, geography, literature, and art from the pre-Columbian period to the present. The course is conducted in Spanish. *(H, I, CS, SW-GE)*

SP-299 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

SP-300 Myth and Magic Realism *(3 credits)* Explores the richness and diversity of Hispanic cultures through the study of texts that range from pre-Columbian myths to recent Latin American films. Emphasis will be

placed on the analysis of the mytho-magical elements which are used to represent and often times critique aspects of various socio-cultural realities. The course is taught in English, and all course materials will be available in English. Prerequisites: Sophomore, Junior, or Senior standing. *(CA, I, H, SW-GE)*

SP-301 Voice for Voiceless-LA Testimonial Narr *(3 credits)* The testimonial genre developed in Latin America during the 1960s to give voice to the voiceless and bear witness to the world of the marginalized and oppressed. A representative sample of testimonial narratives will be read to examine topics such as the testimonial pact established with readers, social realities represented, processes of textual production, and narrative forms incorporated. Text will be read in English translation and the class will be conducted in English. Prereq: FYC-101 or EN-110 or EN-109. (Previous course title: Latin American Testimonio) *(CA, I, H, WK-HT)*

SP-305 Advanced Spanish Conversation & Comp *(3 credits)* This course is designed to give students opportunities to develop and practice their Spanish at the intermediate-high and advanced levels of the ACTFL Proficiency Guidelines available at www.actfl.org. At the advanced level, speakers can: (a) narrate and describe in all major time frames (present, past and future), (b) handle a situation with a complication, (c) use connective devices and a variety of subordinate clauses, (d) use circumlocution, and (e) address topics of personal and general interest. At the advanced level, one may also demonstrate conceptual awareness or even partial control of superior level functions from the ACTFL Proficiency Guidelines (e.g., support opinion, hypothesize, discuss topics concretely and abstractly, and handle a linguistically unfamiliar situation). Prerequisite: SP 230. *(I, CW, CS, SW-GE)*

SP-306 Language, Identity & Justice *(3-4 credits)* This Spanish-immersive course combines three distinct, yet intertwined components. 1) general Spanish classes through small group tutoring, 2) a survey of Ecuadorian history and culture as related to issues of social justice, and 3) a study of how learning language intersects with our individual and collective identities. NOTE: This is an 'institution of record' course in association with the Pachaysana Institute in Ecuador and is open only to students attending this institution. Instructor permission is required. (Previously titled Ecuador: Language, Culture, and Justice) *(SW-GE)*

SP-325 Spanish Immersion 3-Orizaba *(3 credits)* A second intermediate Spanish language course, which is part of a 4-week summer intensive language program in Orizaba (Mexico), that reviews the fundamentals of Spanish grammar, pronunciation, and language production, exploring the subtleties of features such as preterit-imperfect aspect and the subjunctive mood. Intensive immersion practice will enable students to achieve greater mastery of these elements and to further develop their language proficiency. Prerequisite: SP-230 or SP-235 or SP-245 or SP-250 or SP-255 or SP-260 SP-265 or SP-275 or SP-285. *(H, I, SW-GE)*

SP-345 Spanish Phonetics & Phonology *(3 credits)* This course serves as an introduction to the phonetics and phonology of Spanish. The goals of the course include providing students with a theoretical and practical understanding of the system of Spanish sounds, including dialectal variations, as well as strengthening students' Spanish speech in the direction of more native like pronunciation. Prerequisite: Study abroad experience or permission of the instructor. *(H, I, CS, SW-GE)*

SP-355 Contemporary Hispanic Short Fiction *(3 credits)* Note: Meets with SP255. Additional work is assigned. Prerequisites: SP250 or equivalent and study abroad experience or approval of the instructor. *(H, I, CS, SW-GE)*

SP-357 Hispanic Pop Culture in Poetry *(3 credits)* Students will explore poetic expression in popular culture music genres, including the corrido, tango, nueva cancion, and reggaeton, as well as works of iconic poets.

They will reflect critically on the practice of categorizing art according to dichotomies such high and low-brow, poetic or vulgar, crap or canon. Pre-reqs: Two 200-level Spanish courses. *(I, H, SW-GE)*

SP-365 Contemporary Spain *(3 credits)* Note: Meets with SP265. Additional work is assigned. Prerequisites: SP250 or SP255 or or SP260 or approval of the instructor. *(H, I, CS, SW-GE)*

SP-373 Hispanic Cultures in Film *(3 credits)* Students will explore various perspectives and practices from Hispanic cultures by viewing, interpreting, and critically and creatively analyzing a series of feature films from Spain and Latin America. Spanish will be the language of instruction and classroom activites will be carried out in Spanish so students can continue developing their Spanish language and Hispanic cultural competence. Intermediate Spanish proficiency is strongly recommended. Pre- or co-requisite: FYC-101. *(WK-CE)*

SP-375 Art and Activism in Latin America *(3 credits)* Studies art --literature, film, music, plastic arts, etc.-- that denounces social injustice and seeks to trigger fundamental reforms in Latin American societies. Known as arte comprometido or committed art in Latin America, selected artistic texts treat topics such as political violence, economic exploitation, racism, and machismo. The course is conducted in Spanish. Prerequisites: SP250 or SP255 or by permission of the instructor. *(I, H, F, CS, SW-GE)*

SP-385 Intro to Latin America *(3 credits)* This course focuses on the historical, political, intellectual, artistic, and social aspects of Latin America in order to familiarize students with the main trends in the development of the region. After a review of major historical events, students will explore trends and differences among regions of Latin America. The study focuses on textual readings, but also examines some representative examples of cultural production in the fields of art, literature, music and film. Students should not take this course if they already took SP-285. *(I, H, CS, SW-GE)*

SP-399 Special Topics *(1-4 credits)* Provides courses not covered by the regular offerings. These are developed to meet the needs of students of advanced standing.

SP-400 Contemporary Spanish American Novel *(3 credits)* Students continue to develop advanced Spanish language and Hispanic cultural proficiency as well as critical thinking skills through the study of contemporary Spanish American novels. Prerequisite: SP250 or SP255 or permission of the instructor. *(H, I, CW, CS, SW-GE)*

SP-401 Gender Fiction in Hispanic Literature *(3 credits)* This course, formerly titled Women in Hispanic Fiction, examines gender constructs in works by Latin American and Spanish authors. Among the topics that will be examined are the construction of gender and identity roles, historical spheres of participation for men and women, and the changing definition of such identity markers and roles. The course will focus on a broad historical range of literary works, examining how gender identities are presented in these works through their intersectionality with sexuality, class, race, age, and politics. In addition to the primary texts, students read critical essays on gender and discuss films and podcasts that develop topics parallel to those in the texts. Prerequisites: SP-250 or SP-255.(Previous Course Title: Women in Hispanic Fiction) *(I, H, CW, SW-GE)*

SP-404 Hispanic Metafiction *(3 credits)* Metafiction is fiction that, rather than transparent, is opaque. In the metafictional moment, the reader looks at rather than through the fictional illusion. As Patricia Waugh writes in Metafiction: The Theory and Practice of Self-Conscious Fiction, Metafictional novels tend to be constructed on the principle of a fundamental and sustained opposition: the construction of a fictional illusion (as in traditional realism) and the laying bare of that illusion. In this course, students engage with the

theory of metafiction and study examples from Hispanic fiction, which include works by Allende, Borges, Cortazar, Cervantes, and Garcia Marquez. Prerequsite: SP210 or permission. *(I, H, SW-GE)*

SP-405 Cont. Spanish Novel *(3 credits)* Students continue to develop advanced Spanish language and Hispanic cultural proficiency as well as critical thinking skills through study of contemporary Spanish novels. Prerequisites: SP250 or SP255 or approval of the instructor. *(H, I, CS, CW, SW-GE)*

SP-420 Generation of 1898 *(3 credits)* In this course. students analyze selected essays, fiction, drama, and poetry of this key group of writers who accomplish a major renovation of Spanish thought and literary forms during the early decades of the twentieth century. Prerequisite: SP250 or SP255 or permission of the instructor. *(H, I, CS, SW-GE)*

SP-430 Advanced Spanish Grammar *(3 credits)* This course serves to help advanced students gain a better understanding of the meaning of certain grammatical constructions in Spanish by systematically observing and analyzing their use in a variety of communicative contexts. Prerequisite: SP235. *(H, I, CS, SW-GE)*

SP-499 Special Topics *(1-4 credits)* Allows the department to offer subjects not on the normal schedule. Prerequisites vary by title.

SP-INS Independent Study *(1-4 credits)* See catalog.

SOCIAL WORK (SW)

SW-001 Non-Credit SW Internship *(0 credits)* See catalog

SW-214 Integrated Research Methods & Stats I *(3 credits)* An integrated course sequence applying processes of social inquiry to the assessment of historically oppressed and vulnerable populations, and of the interventions used to help those populations. This course integrates key research concepts and commonly used quantitative and qualitative methods in the social sciences, with the ability to communicate effectively about research with written and verbal skills. The course teaches students not only to conduct social science research but also to consume and utilize social science research in a critical way, including in practice as a helping professional. *(S)*

SW-215 Integrtd Research Methods & Stats II *(3 credits)* The second part of an integrated course sequence applying the scientific process to the fields of Social Work and Sociology, emphasizing key research concepts, commonly used quantitative and qualitative methods, and the ability to communicate effectively about research with written and verbal skills. The course teaches students not only to conduct research but also to consume and utilize research. *(S)*

SW-221 The Life Cycle *(3 credits)* This course provides an introduction to lifespan development from conception, through birth, infancy, childhood, adolescence, and various stages of adulthood. Explores perspectives on the biological, psychological, and socio-cultural aspects of development over time. Examines human diversity as well as similarities in growth and development, utilizing theory and research. Discusses implications for prevention and intervention related to common developmental challenges and adversities. Pre-Req or Co-Req: FYC-101 or EN-110 or EN-109 *(S, WK-SI)*

SW-230 Introduction to Social Work Practice *(4 credits)* This course examines the generalist knowledge, values, and skills of the social work profession. Emphasizes interviewing and communication skills, the development of a helping relationship, the strengths perspective, and problem-solving strategies. Students

will integrate skills and knowledge as they engage with the community in 20 hours of volunteer service. Prerequisite: SO-101 *(S, SW-LE)*

SW-231 Social Problems & Social Welfare *(3 credits)* This course explores persistent social problems including poverty, inequality, unemployment, homelessness, family violence, substance abuse, and lack of healthcare access, using historical, philosophical, and social science perspectives. The development of social policies and services as institutional responses to these problems are described and analyzed. Over the course of the term, students will review a significant body of literature related to a social problem/policy of choice, and conduct a case study with a community member who has experienced consequences of that same problem/policy. Prerequisites: FYC-101, EN-110, or EN-109. *(S, WK-SI)*

SW-241 Children, Youth, and Family Services *(3 credits)* This course involves a critical analysis of child and family services, practices, and policies, while exposing students to the challenging risks and needs, traumatic and institutional experiences of high-risk youth and families, as well as sources of strength, protection, and resilience. Students will participate in analyzing and interpreting research using needs assessment data provided by the instructor, and complete a scaffolded research paper assignment to analyze a specific issue of interest. *(CW, S, WK-SI)*

SW-299 Social Work Special Topics Course *(1-4 credits)*

SW-330 Social Work Practice: Individual, Family & Small Groups Laboratory *(2 credits)* This concurrent laboratory for SW-331 allows students to gain further experience working in a social service agency through participation in volunteer work, which is supervised and evaluated by a human service professional within the agency. Through this work, students have an opportunity to apply the skills needed to work with vulnerable client populations, including engaging, assessing, and intervening. Co-Req: SW-331. Pre-Req: SW-230. *(S, SW-LE)*

SW-331 Social Work Practice: Individual, Family & Small Groups *(4 credits)* Explores the problem solving process used in social work practice with individuals, families and small groups. Interviewing and problem solving skills, family systems analysis and group process are refined in preparation for beginning practice with individuals, families, and small groups. Corequisite: SW330. Prerequisite: SW230. *(S)*

SW-332 Social Work Practice: Large Groups, Organizations and Communities *(4 credits)* Focuses on the problem solving processes employed in the delivery of social work services at the agency, institutional and community level. Primary consideration is given to the systems approach to communities and the techniques, strategies, and roles utilized by the worker in assisting communities and groups to attain satisfying and developmental levels of social functioning. Prerequisite: SW230. *(S, CW)*

SW-333 Social Welfare Policies and Services *(3 credits)* A conceptual study of the meanings, nature, scope, implementation and evaluation of social policy as it relates to issues of social welfare. Prerequisite: SW-231. *(S, CW)*

SW-399 Special Topics *(1-4 credits)* Allows the department to offer topics not on the regular course offerings. Prerequisites and corequisites may vary by title.

SW-490 Social Work Professional Semester *(12 credits)* Full time supervised senior capstone field experience in an approved social work agency. Students integrate the knowledge, values and skills of the social work profession with experiential learning in preparation for assuming the responsibilities of an entry-level social work professional upon graduation. Corequisite: SW-495 Must have instructor permission. *(S)*

SW-495 Professional Semester Seminar *(3 credits)* Involves research and discussion of practice issues of importance to the generalist social worker focusing on the impact these issues have on student's own practice experience. Corequisite: SW-490. Must have instructor permission. *(S)*

SW-INS Independent Study *(1-4 credits)* See catalog.

SW-TUT Social Work Teaching Assistant *(1-4 credits)*

THEATRE (TH)

TH-001 Non-credit TH Internship *(0 credits)* Provides students an overview of an organization as well as providing an opportunity for practical application of the skill developed in students' area of concentration. Note: see the chapter"Special Programs"under Internships;listed as internship: (Title); must be 6 weeks long. Prerequisite: Permission.

TH-120 Tai Chi, Level I *(1 credits)* This course provides an introduction to Tai Chi movement, history, and philosophy. Students will be able to explain the history of Tai Chi, perform a solo Tai Chi sequence, and engage in push-hands with a partner. Tai Chi is useful to the performing artist both in its philosophy and also in cultivation of kinesthetic and energetic awareness of the body. It also promotes mindfulness and wellbeing.

TH-121 Tai Chi, Level 2 *(1 credits)* This course deepens your understanding of Tai Chi movement, history, and philosophy. Students will deepen their understanding of Tai Chi history, perform a solo Tai Chi sequence, and engage in push-hands with a partner at a much deeper level than Tai Chi 1. Tai Chi is useful to the performing artist both in its philosophy and also in cultivation of kinesthetic and energetic awareness of the body. It also promotes mindfulness and wellbeing. Prerequisite: TH-120 or CONN-234. Note: This course is repeatable for credit up to three times.

TH-123 Jedi Academy *(4 credits)* In Jedi Academy, we will examine the nine major Star Wars films but also some of their historical, philosophical, neurobiology, and creative influences and intersections. We will also train our own bodies, minds, and spirits and search for our own personal definition of health, happiness, and wellbeing. NOTE: This course involves a significant physical strength and condition component. Everything we do in class is scalable and modifiable for all abilities and fitness levels. However, student-athletes must get permission from the Head Coach as activities in this class could lead to over-training. Pre-Req: FYC-101 or EN-110 or EN-109 *(F, WK-CE)*

TH-148 JCD&D *(4 credits)* Drawing on the most popular role-playing game in history, Dungeons and Dragons, students will explore improvisation, character building, and storytelling culminating in an original campaign. Prerequisite or corequisite: FYC-101. *(WK-CE)*

TH-161 Play/Making *(3 credits)* Compositions are a collaborative way to rehearse a play, build a play, and nurture ensemble. Built off an idea or theme, book or novel, or an existing play, these short theatre pieces can be woven together into a full-length production or simply stand-alone exercises to deepen an artists' understanding of work. We will be building all of our work off of a central idea with multiple source documents with the goal of creating a final, full-length performance piece. *(WK-CE, H, F)*

TH-199 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

TH-221 Acting I *(3 credits)* A study of the discipline of acting, including development of concentration methods, creative energy, fine tuning of the vocal and physical instrument and character analysis. *(F, WK-CE)*

TH-262 Solos *(4 credits)* This course uses playwriting and performance techniques to move from page-to-stage as students create original one-person shows. We will explore a number of different playwriting techniques from self-exploration, interview, and narrative forms. Then we will rehearse and perform the pieces at the end of the semester in a new play festival. *(F, CW, WK-CE)*

TH-299 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

TH-325 Acting II *(3 credits)* Upon successful completion of this course, the student should be able to: Meisner-based Practical Aesthetics through script analysis and application to scene work. Develop a deeper confidence in the strength and flexibility of the breath and voice. Collaborate on scene rehearsals with partner in a professional manner Nurture a deeper understanding of her meta-cognition. Integrate strategies for mitigating stress through self-talk, imagery, and meditation. Engender a life-long pursuit of self-improvement and psychophysical mastery. Prerequisite: TH221. *(F, CS)*

TH-399 Special Topics *(1-4 credits)* Allows the department to offer special topics not normally offered. Departments may offer more than one special topic. Prerequisites vary by title.

TH-405 Directing *(3 credits)* The basic principles of stage directing are offered with areas of inquiry and practical application in: script selection and analysis, audition/casting techniques/considerations, rehearsal preparation, the prompt script, working with designers, decision making, working with actors, being a director/guide (vision, focus, note- taking, and giving), and bringing a script/actors/designers to performance. Each student will select and work on a one-act script which, will be presented to the public in a spring semester festival. Prerequisites: Junior or Senior standing and permission of the instructor. *(F, H, CS)*

TH-490 Theatre Internship *(1-9 credits)* See Internships in the catalog. Corequisite: TH-495. Requires permission and sophomore, junior, or senior class standing. *(H)*

TH-495 Internship Seminar *(1-6 credits)* See Internships in the Catalog. Corequisite: TH-490. Requires permission and sophomore, junior, or senior class standing. *(H)*

TH-INS Independent Study *(1-4 credits)* See catalog.

TH-TUT Theatre Tutorial *(1-4 credits)* See Catalog.

WORLD LANGUAGES (WL)

WL-001 Non-Credit World Languages Internship *(0 credits)* Provides students an overview of an organization as well as providing an opportunity for practical application of the skill developed in students' area of concentration. Note: see the chapter under "Special Programs" under Internships. Internship must be at least 6 weeks long. Prerequisite: permission.

WL-201 Language in Motion *(1 credits)* In this course, international students, study-abroad returnees, students with other international experiences, heritage speakers, and/or upper-level language students expand their knowledge of language and culture, process their own intercultural and language-learning experiences, and enrich local school classrooms. In addition to learning about teaching language and culture

and the school context, students develop individual projects for presentation in school classrooms. *(H, I, CS, SW-LE)*

WL-211 Social Life of Language *(3 credits)* In this course, we will use discussions, activities, and readings from a variety of cultural perspectives to examine the ways that language is used both by individual speakers and in broader cultural contexts to establish and express various identities and power structures. We will also examine how language itself is shaped by those changes. Pre- or co-requisite: FYC-101 or instructor permission. *(SW-GE)*

WL-399 World Languages & Cultures Special Topic *(1-4 credits)*

WL-490 World Languages Internship *(1-9 credits)* See Internships in Catalog. Corequisite: WL-495. Requires permission and sophomore, junior, or senior class standing. *(H, I)*

WL-495 Internship Seminar *(1-6 credits)* See Internships in Catalog. Corequisite: WL-490. Requires permission and sophomore, junior, or senior class standing. *(H, I)*

WL-INS Independent Study *(1-6 credits)* See catalog.

Graduate Courses

MASTER OF ACCOUNTING (AC)

AC-532 Corporate Taxation *(3 credits)* This course is intended for graduate students who desire to learn how the IRS code applies to corporations,estates, and trusts. Tax research is emphasized. Prerequisite: The student must have been admitted to the graduate program in accounting at Juniata College.

AC-533 Government and Nonprofit Accounting *(3 credits)* Governmental and Nonprofit Accounting is designed to provide an overview of fundamental concepts and practices used in accounting for activities of governmental and non-business organizations. Students will be familiar with recording financial transactions, preparing financial reports, budgeting, auditing, and analyzing the results for federal, state and local governments, colleges and universities, healthcare organizations and other nonprofits.

AC-534 Advanced Accounting *(3 credits)* This course focuses on accounting theory and problems regarding complex transactions such as consolidations, reporting requirements and international standards. Also, the course will include examination of topics currently under review by the authoritative boards. Prerequisite:Bachlor degree and admission to the Master of Accounting program

AC-535 Auditing *(3 credits)* This course provides an in-depth understanding of auditing theory and authoritative guidance. This course will include current auditing issues, including specific requirements for public companies.

AC-536 Federal Taxation of Individuals *(3 credits)* Examines the federal income tax structure and its relationship to individuals and sole proprietorships. The course will explore the social, legal, economic, philosophical, and political considerations relevant when designing a tax system.

AC-537 Cost Accounting *(3 credits)* An analysis of the use of cost accounting systems to accumulate and allocate costs to support decision-making and managerial control. Emphasis is on solving real business

problems. We will also explore socio-economic theories of the firm so that you may better understand the reasons/rationale for the many cost management techniques and procedures used to aid in making business decisions.

AC-538 Forensic Accounting *(3 credits)* This course provides an in-depth understanding of auditing theory and authoritative guidance. This course will include current auditing issues, including specific requirements for public companies. (Prerequisite: Bachelor degree and admission to the Master of Accounting program).

AC-539 Accounting Research *(3 credits)* Under the guidance of their advisor, all MAC students are required to prepare and present a research paper on a relevant Accounting topic. Although this paper is not a master's thesis, it does encompass significant library research and data collection and may include reports on field research or case studies. Students should work with their primary faculty advisor in the development of the paper and presentation.

AC-563 Financial Markets&institutions *(3 credits)* financial Markets and Institutions is a graduate level economics course. Students develop a deeper understanding of the purpose of financial markets, what is required for them to operate well and why they sometimes fail, and also the important role of monetary policy in the economy. Prerequisites: EB222 and graduate status.

AC-564 Financial Theory & Analysis *(3 credits)* AC564 Financial Theory & Analysis develops the skills and knowledge you need to effectively evaluate investment choices and put together an appropriate investment portfolio for an individual or an institution. Prerequisites: EB361 and EB211 or ND.SS214.

AC-599 Special Topics *(1-6 credits)* Allows department to offer topics not normally taught. Requisites and fees vary by title.

AC-INS Independent Study *(1-6 credits)*

MASTER OF BIOINFORMATICS (BIN)

BIN-500 Bioinformatics Fundamentals *(4 credits)* Bioinformatics is the science of collecting and analyzing complex biological data. It is an interdisciplinary field that develops and applies methods and software tools for understanding biological data. *(N)*

BIN-510 Scientific Grant Writing *(3 credits)* This course is designed to introduce students to the principles and practices of effective grant writing. Through a blend of lectures, workshops, and peer-review sessions, students will learn how to develop compelling research proposals, effectively communicate their research ideas, and navigate the grant submission and review process.

BIN-517 Principles of Genetics *(4 credits)* This course offers a comprehensive introduction to the principles and mechanisms underlying heritability and genetic variation. Students will explore Mendelian genetics, DNA structure and replication, gene expression, and the role of genetics in evolution, medicine, and society.

BIN-537 Molecular Ecology *(3 credits)* Molecular ecology delves into the interface of molecular biology and ecology, focusing on the application of molecular techniques to address ecological questions. Students will explore the genetic processes that underlie ecological phenomena and will learn how molecular tools can inform our understanding of speciation, adaptation, behavior, and conservation.

BIN-560 Genetic Analysis *(4 credits)* Topics covered will include basic and advanced topics in transmission, quantitative and population genetics, with emphasis on analysis. the methods that modern researchers use

to discover gene function and molecular basis of adaptive or disease traits and how they are transmitted over generations in model and non-model species. Prereqs: BI 105/BI 106 or BI 101/102 or one year of college Biology.

BIN-561 Medical Genetics *(3 credits)* Medical Genetics will focus upon the studies in Kish Valley over the past 10 years. Students will learn the methods by which experts in the field analyze whole exomes, Propionic Acidemia, and secondary variants that may affect heart failure & arrhythmia and poor neurological outcomes. We will evaluate how genetic tests have been used to define the common and rare disorders. Students will learn how to calculate Minor Allele Frequencies, Carrier and Disease rates. We will also cover technologies including Newborn Screening, Targeted Gene Mutation Tests, InVitae, and Gene-Dx Gene Panels, Plain-Insight-Profiles, and Whole Exomes sequencing technologies that are used to screen for diseases in this population.

BIN-570 Practical Genomics *(4 credits)* Genomics is an exciting and ever advancing field. Through a mixture of traditional lectures and novel research-based laboratories students will learn about both the theoretical and practical applications of genomics within biology and across other scientific fields.

BIN-571 Applied Bioinformatics *(3 credits)* This interactive course is tailored to provide students with the essential computational tools to analyze large biological datasets and extract meaningful results using a novel biological dataset. Students will also learn to write a scientific manuscript that will be prepared for publication by the end of the course.

BIN-572 Biotechnology *(3 credits)* This course provides an in-depth exploration of the principles, techniques, and applications of biotechnology. Students will explore the fundamental concepts of molecular biology and the real-world impact and ethical considerations of biotechnology in various fields, including healthcare, agriculture, and the environment. Students will interface with professionals in the field and work toward professional development for the biotech industry.

BIN-580 Advanced Research Methods *(4 credits)* This class will provide training in advanced modern molecular wet lab, statistical and/or informatics tools. Bioinformatics skills will be related to assembly, annotation, variant characterization, and/or comparison of eukaryotic genomes and populations. Statistical analyses will be performed in R. Molecular tools may include DNA and RNA isolation, electrophoresis, restriction digests, DNA isolation from gels, PCR, sequencing, next generation sequencing and equipment maintenance. Core bioinformatics learning objectives will receive special attention. General skills include training students in the process and procedures of conducting meaningful and responsible research in Biology, including: deriving research objectives, experimental design, problem solving skills, responsible conduct.

BIN-581 Bioinformatics Capstone *(4 credits)* This culminating experience provides graduate students with the opportunity to engage in an independent, hands-on research experience for an entire semester. The research experience can be with private industry, academia, or the government and must be approved first by Dr. Lamendella. The experience must be immersive in bioinformatics and/or biotechnology, must have a data analysis component and the research project will be disseminated via both a written manuscript and oral presentation.

BIN-599 Bioinformatics Special Topics Course *(1-4 credits)*

BIN-600 Environmental Genomics *(4 credits)* This course will utilize Microbial Community Analysis leveraging high-throughput sequencing technology to identify the microbes present in naturally occurring our

man-made ecosystems. Students will learn both molecular and bioinformatics skill sets, as well as microbial ecology principles throughout this course.

BIN-INS Bioinformatics Independent Research *(1-6 credits)* This independent study will support students pursuing capstone projects. The course will focus on advancement of writing and presentation skills to a computational audience.

MASTER OF DATA SCIENCE (DS)

DS-500 Data Science Fundamentals *(4 credits)* A graduate level introduction to data science through a focus on the language R. Support tools and libraries such as Rstudio and the tidyverse will be emphasized. Students will complete the data science boot camp (a weekend in person intensive or online equivalent) at the start of this online course.

DS-510 Computer Science Fundamentals *(4 credits)* A graduate-level introduction to Computer Science Fundamentals through a focus on the Python language. Students will complete the data science boot camp (a weekend in-person intensive or online equivalent) at the start of this online course.

DS-516 Mathematics Fundamentals *(3 credits)* Selected topics of discrete mathematics and linear algebra related to data science analysis techniques and algorithms.

DS-520 Statistics Fundamentals *(3 credits)* Overview of basic statistical techniques including descriptive statistics, hypothesis testing, and regression.

DS-525 Data Acquisition & Visualization *(3 credits)* A graduate-level introduction to retrieving, cleaning, and visualizing data from widely varied sources and formats. The student will use common data science languages and tools for extraction, transformation, loading and visualizing data sets. Project presentations will have an emphasis on communication skills. Tableau visualization tools and Python libraries are used.

DS-530 Multivariate Techniques *(3 credits)* Multivariate statistical techniques including multivariate regression, logistic regression, and dimension reduction techniques. Students will get hands-on experience applying the topics covered to real datasets using R, a powerful and popular open-source statistical computing language. Prereqs: DS-516 and DS-520.

DS-552 Data Mining *(3 credits)* This course considers the use of machine learning (ML) and data mining (DM) algorithms for the data scientist to discover information embedded in wide-ranging datasets, from the simple tables to complex data sets and big data situations. Topics include ML and DM techniques such as classification, clustering, predictive and statistical modeling using tools such as R, Python, Matlab, Weka and others. Prerequisite: DS-500, DS-510, or by permission

DS-570 Database Systems *(3 credits)* This course focuses on database design and relational structures, data warehousing and access through SQL. Students will use SQL to create and pull data from database systems. NoSQL and data warehousing are also covered to give students the necessary background in database systems. Pre-Req: DS-510

DS-575 Big Data Techniques *(3 credits)* This course considers the management and processing of large data sets, structured, semi-structured, and unstructured. The course focuses on modern, big data platforms such as Hadoop and NoSQL frameworks. Students will gain experience using a variety of programming tools and paradigms for manipulating big data sets on local servers and cloud platforms. Prerequisite: DS-500 or DS-510

DS-580 Data Science Capstone *(3 credits)* Data science practicum requiring completion of a large-scale analysis project of a given data set. Written and oral communication skills emphasized. Prerequisites: DS-500, DS-510, DS-516, and DS-520, or instructor permission.

MASTER OF EDUCATION IN SPECIAL EDUCATION (ED)

ED-501 Foundations of Special Education *(3 credits)* Special education professionals apply knowledge of theories, evidence-based practices, and relevant laws to advocate for programs, supports, and services for individuals with exceptionalities. This course provides an overview of exceptionality in children/youth from birth to 21 years of age. Students will gain foundational knowledge of the field, professional ethical principles, and practice standards to inform special education practice.

ED-502 Special Education Law *(3 credits)* This course provides a breadth and depth of information on special education law including: (1) a comprehensive overview of the history of special education, (2) pertinent court cases that impacted legislation, and (3) current legislation that secures access and rights for children and youth with exceptionalities and their families. IDEA (Individuals with Disabilities Education Act) and its principles will be a key focus.

ED-503 Understanding the Research in Special Ed *(3 credits)* In this course students critically examine and interpret the current research in order to identify and subsequently utilize best practices in the classroom. Both qualitative and quantitative techniques are reviewed. Students review the professional literature and share findings with a learning community that embraces professional development.

ED-504 Supporting Students w/Behavioral Needs *(3 credits)* This course provides an overview of strategies that promote social, emotional, and behavioral growth of students while fostering a welcoming and safe classroom environment that encourages positive behavior through the use of responsive and preventative measures. Students will learn to conduct functional behavioral analyses and apply principles of PBIS (Positive Behavioral Interventions and Supports) to deliver evidence-based interventions that support positive behaviors.

ED-505 Assessment: Using Data to Drive Decisns *(3 credits)* First, this course provides an overview of the special education process outlining how a child or youth is identified for services. Second, this course introduces students to a variety of assessment tools that are reliable, valid, and minimize bias. Students learn to create, administer, and score assessments and subsequently use this information to inform instruction, practices, and programming. Ethical practices and considerations are discussed.

ED-506 Effective Instruction for All *(3 credits)* This course focuses on designing and delivering effective instructional strategies. Content will focus on understanding the unique needs and learning differences of all individuals and using this to inform practices and programming. In addition to an explicit and systematic approach, topics will include active student engagement, motivation, opportunities to respond, self-regulation, and grouping for instruction. Students will also learn to align standards to ensure access to the general education curriculum for all.

ED-507 Science of Reading *(3 credits)* This course provides an in-depth review of the literature on structured literacy instruction that supports typical readers as well as students who struggle to acquire the literacy skills that are essential to success in school and life. Students will explore the body of work that exists on the Science of Reading (SOR) which is based upon an emerging consensus from multidisciplinary research that supports and explains the importance of explicit, systematic, and sequential instruction to support students'

acquisition of literacy skills. The SOR framework for understanding reading development and disability will be utilized.

ED-508 Culturally Responsive Teaching *(3 credits)*

ED-509 Low Incidence Disabilities *(3 credits)* In this course students will learn evidence-based strategies to work with learners with low-incidence disabilities, severe/multiple disabilities, and/or complex communication needs. Instructional strategies focusing on functional academics, social skills, prosocial behaviors, communicative competence, among other areas will be discussed. Additional topics include positive behavior supports, assistive technologies, AAC (Augmentative and Alternative Communication), and collaborative partnerships with families.

ED-510 Capstone in Special Education *(3 credits)* Students engage in a culminating project that demonstrates the content knowledge and skills they learned throughout their program. Students identify and implement a best or emerging evidence-based practice and then collect baseline and intervention data to determine intervention effectiveness. By the end of the course, students produce a capstone paper and share their research within a learning community via a presentation. This course should be taken toward the end of the program. Pre-req: ED-501, ED-502, and ED-503

ED-IND Master of Education Indep Study *(1-4 credits)* Graduate-level independent study for students in the Master of Education in Special Education graduate program. Requires instructor permission.

MASTER OF APPLIED ECOLOGY & NATURAL RESOURCE MANAGEMENT (ENRM)

ENRM-512 Altered Ecosystems *(4 credits)* This course explores the ecological implications of abrupt natural and anthropogenic changes to ecosystems. A major focus will be on how ecosystems respond to these changes over time. Topics covered in this course will include concepts in classical ecology, ecosystem ecology, as well as contemporary theories on restoration ecology. Focus on local altered ecosystem case studies will aid to reinforce principles of ecosystem ecology and field trips to local sites will be used for student projects.

ENRM-525 Advanced Conservation Biology *(4 credits)* Conservation Biology encompasses biology, politics, ethics, economics and anthropology. The major course objective is the exploration of conservation complexities--important for successful conservation efforts. Other objectives are to gain an understanding of extinction, community conservation, population genetics and demography.

ENRM-526 Wildlife Techniques *(2 credits)* The overall goal of this hybrid course is for students to become familiar with a variety of laboratory and field techniques for wildlife and natural resource research and management. This course is not comprehensive, rather, our goal is to expose you to the applications, assumptions, and limitations of many common techniques you may encounter as a wildlife professional. The course addresses techniques to measure population size, habitat assessment and environmental impacts as well as recording animal behavior. In-field data collection, data entry, and management are emphasized throughout the course. Students also receive IACUC training. NOTE: This course will be delivered in a hybrid format with the first portion conducted asynchronously online and the second in-person in the classroom/field.

ENRM-533 Advanced Plant Ecology *(4 credits)* In this course we will analyze and explore how plants interact with their living and non-living environments in ways that influence their distribution and abundance. We will study and practice methods of plant community analysis and description (i.e. vegetation analysis) as well as principles of the scientific method inherent to our understanding of plant communities.

ENRM-534 Plant Conservation Practicum *(2 credits)* At the heart of most in-situ biological conservation is the conservation of primary producers. To conserve any species, we must conserve plants. This course will explore and analyze the relevant practical and ethical concerns around plant conservation, the tools and methods for planning and executing plant conservation, and several specific plant conservation case studies. NOTE: This course will be delivered in a hybrid format with the first portion conducted asynchronously online and the second in-person in the classroom/field.

ENRM-535 Advanced Quantitative Ecology *(4 credits)* The goal of the course is to advance student understanding of a broad range of numerical and graphical techniques used to analyze complex dataset in the natural sciences. Students will learn the context to properly apply these techniques to address research questions. The purview is ecological; but is applicable to all other quantitative endeavors.

ENRM-536 Advanced Plant Diversity *(4 credits)* This course explores the diversity of plants through the scientific field of plant systematics, and in particular, through the practice of plant taxonomy: the description, identification, naming, and classification of plants. We will focus our attention on studying and identifying the regional flora as well as the major vascular plant families through a combination of field and literature study.

ENRM-537 Environmental Policy & Planning *(3 credits)* This course in environmental policy and planning will explore theories of the policy process, environmental regulations, environmental impact assessment, negotiation and mediation, the dominant political actors as they apply to environmental conflicts in the US.

ENRM-540 Watershed Monitoring *(3 credits)* The focus of this course is monitoring ecological health of watersheds through assessments of riverine ecosystems. The course presents advanced principles of watershed ecology, field techniques, and analytical methods to conduct ecological assessments. These skills are essential for documenting conditions, monitoring the health of our nation's aquatic resources under Clean Water Act mandates, and evaluating effectiveness of stream restoration projects. NOTE: This course will be delivered in a hybrid format with the first portion conducted asynchronously online and the second in-person in the classroom/field.

ENRM-570 Field Herpetology *(3 credits)* Field Herpetology focuses on techniques, methods, data collection and best practices for working with amphibians and reptiles in a scientific context. This course will address aspects of field work with amphibians and reptiles as it relates to ecology, physiology and conservation efforts. This is a hands-on experience intended to provide skills and knowledge related to identifying local taxa. Students will apply this knowledge by developing and carrying out a short independent research project. NOTE: This course will be delivered in a hybrid format with the first portion conducted asynchronously online and the second portion in-person in the classroom/field.

ENRM-577 Geospatial Ecology & Remote Sensing *(3 credits)* This course will cover Habitat Suitability Analysis; Land Use Land Cover Change/Climate Dynamics; Spatial Statistical Models; Geographic Information Science for NEPA and ESA review; and automating GIS processing using R, Python, and ArcGIS.

ENRM-597 Appl Ecol & Nat Res Mgmt Capstone I *(1-3 credits)* The capstone project could be a research paper or a report resulting from an internship. The goal of the Capstone Experience in the Master of Applied

Ecology and Natural Resource Management is to give students an interdisciplinary real-world experience. The intent of the course is to introduce relatively minimal new material, but rather have the students work independently, utilizing skills they have learned during their tenure at Juniata College.

ENRM-598 Appl Ecol & Nat Res Mgmt Capstone II *(1-3 credits)* The capstone project could be a research paper or a report resulting from an internship. The goal of the Capstone Experience in the Master of Applied Ecology and Natural Resource Management is to give students an interdisciplinary real-world experience. The intent of the course is to introduce relatively minimal new material, but rather have the students work independently, utilizing skills they have learned during their tenure at Juniata College. Prerequisite: ENRM-597.

MASTER OF BUSINESS ADMINISTRATION (MBA)

MBA-502 21st Century Leadership *(3 credits)* This graduate level course is designed to strengthen students' leadership abilities by exploring leadership concepts, theories and student's experiences of leading. The role and function of leaders looks very different today than years ago. Change is the norm. Leaders must understand today's challenges and be able to function effectively given a borderless, multicultural, virtual, and diverse group of partners, stakeholders and constituents.

MBA-511 Quantitative Analysis & Research Methods *(3 credits)* Quantitative Analysis and Research Methods will examine some of the principle analytical tools for decision-making in business and investigation in the social sciences.

MBA-512 Organizational Behavior *(3 credits)* In this graduate level course students will understand and interpret the theories and professional practices as related to organizational behavior. This will help students to acquire and use vital business knowledge and skills, and will invite students to think critically. Students will be able to explain relevant business, organizational, and leadership terms, facts, and processes. This will help students to acquire and use business knowledge and skills, and will encourage students to identify and transform data into useful information for decision-making. Students will analyze information to inform organizational decisions. This will help students to acquire and use business knowledge and skills, will encourage students to identify and transform data into useful information for decision-making, will force students to think critically, and will help students to recognize and evaluate the broad effects of business decisions. Students will demonstrate professional communication skills. This will assist students, as they move forward into their lives and careers, to communicate professionally. Students, working in teams, will propose solutions to a business or organizational case. This will provide students with the benefit of learning to work as members of teams.

MBA-520 Strategic Marketing Management *(3 credits)* This course focuses on refining students' skills in comprehending marketing theories and measuring marketing strategies and seeing how the marketing tactics selected need to be in alignment with strategies, such as the selection of which businesses and segments to compete in, how to allocate resources across businesses, segments, and elements of the marketing mix in a dynamic competitive environment.

MBA-521 Health Economics *(3 credits)* Health Economics uses microeconomic principles to better understand the history and current structure of America's healthcare system. Particular attention is paid to special interest group lobbying, ethical concerns, sources of inefficiency in the system and a historical analysis of how America's healthcare system got to its current state.

MBA-523 Managerial Economics *(3 credits)* Microeconomics is crucial to understanding the environment in which a manager operates, and as such facilitates better decisions under uncertainty. The main goal of this graduate level course is to employ microeconomic models to guide business decisions and to analyze industries. Undergirding this goal is crystallizing one's understanding of the ethical tradition of the mainstream Neoclassical economic framework and other ethical traditions that critique the Neoclassical tradition.

MBA-531 Profsnl Ethics & Social Respnsblty *(3 credits)* This graduate level course examines the responsibilities of management and senior executives as they lead organizations. The course will focus on stakeholder management, corporate social responsibility, ethics and morality, sustainable development. Students will learn to analyze, question critically, challenge and change ethical and moral standards, priorities, points of trade-off and compromise to be applied to business and professional behavior.

MBA-532 Financial Reporting *(3 credits)* The course examines current practices in corporate financial reporting and fundamental issues related to asset valuation and income determination. The emphasis is on financial statement analysis and interpretation of financial disclosures to help improve risk assessment, forecasting, and decision-making.

MBA-537 Strategic Cost Management *(3 credits)* An analysis of the use of cost accounting systems to accumulate and allocate costs to support decision-making and managerial control. Emphasis is on solving real business problems. We will also explore socio-economic theories of the firm so that you may better understand the reasons/rationale for the many cost management techniques and procedures used to aid in making business decisions.

MBA-541 Operations & Information Mgmt *(3 credits)* Operations and Information Management is designed to expose you to many of the widely accepted quantitative and qualitative methods for solving a wide range of business problems.

MBA-542 Entrepreneurial Management *(3 credits)* Entrepreneurial Management is intended for graduate students who are interested in exploring the world of entrepreneurship and innovation for the purposes of starting their own venture (venture creation) or helping existing organizations to develop new business opportunities (intrapreneurship). The course is designed to develop critical thinking and problem-solving concepts and promote self-exploration through the investigation and implementation of real business opportunities. The goal is to provide experiential and applied learning opportunities that develop the mindset, skills and competencies that enable students to create their own opportunities and function as innovative leaders in entrepreneurial or high potential firms.

MBA-561 Healthcare Operations *(3 credits)* To understand operations' role in healthcare, it is important to appreciate the complexity of the healthcare industry and current trends that affect healthcare organizations from an operational perspective. Changes include new regulatory requirements, payment arrangements, technology, patient expectations, and provider recruitment challenges. Operations leadership must work to balance these shifting-and sometimes conflicting-priorities while 'keeping the lights on' and continuing to seek new efficiencies, while meeting increasingly competitive quality and performance metrics.

MBA-562 Healthcare Financial Management *(3 credits)* In this course, students will examine the key factors impacting financial management of health care organizations. The course will discuss tools and techniques related to healthcare financial management. Students will learn to analyze financial data of these organizations, with particular emphasis on the budgeting process and cost controls.

MBA-563 Healthcare Strategy *(3 credits)* This course is designed to enable an understanding of competitive strategy in a rapidly changing healthcare industry. The course focuses on understanding strategy and market structure, and discussing common business models and strategies for growth, integration, and alliance in a healthcare setting. Class members will discuss the development and selection of an organizational strategy and leadership of strategic planning and implementation processes. With successful completion of the course, students will be able to articulate the importance of identifying stakeholders, values, mission and vision for an organization, and to identify internal and external environmental factors and issues that impact strategic and business planning and performance.

MBA-571 Strategic HR Mgmt & People Analytics *(3 credits)* This graduate level course examines the fundamental issues behind current theory, techniques and practices encountered in human resource management.

MBA-580 Project Management *(3 credits)* MBA 580 examines the challenges of providing project management in the information age of global and cultural contexts. Project management as manifested in today's workplace provides both opportunity and great responsibility. The role and function of project managers looks very different today than years ago. Change is the norm. Project managers must understand today's challenges and be able to function effectively given a borderless, multicultural, virtual, and diverse group of team members.

MBA-590 International Business Strategy *(3 credits)* MBA 590 is an advanced level international business strategy course that focuses on the development of skills to understand a variety of business issues that professional managers face when managing organizations in international markets. Students will first develop an understanding of the conceptual frameworks that are the cornerstones for establishing global businesses. Specifically, the course will explore matters related to politics, laws, economics, cultures, ethics and norms that will affect how business professionals operate organizations in a global market. Students will be expected to learn tools relevant to international trade and investment that are critical to multinational enterprises (MNEs). Some of the key topics we will explore in this course includes entry mode choice, organizational architecture design, internal control and incentive mechanisms; and assessing the challenges of global citizenship, ethical behavior and corporate social responsibility for international business.

MASTER OF PUBLIC HEALTH (MPH)

MPH-500 Health Policy & US Health System *(3 credits)* This graduate-level course explains the policymaking process in the United States as it relates to healthcare policy. Students will contemplate how healthcare policy is shaped by ethical considerations, research and evidence about healthcare outcomes and disparities, and political considerations.

MPH-501 Research Methods & Epidemiologic Studies *(3 credits)* Designed to equip students with essential tools for evidence-based practice, this course explores the foundations of research design, methodologies, and the application of epidemiological principles to public health challenges.

MPH-502 Biostatistics & Health Informatics *(4 credits)* This comprehensive course integrates the principles of biostatistics and health informatics, offering students a robust foundation in statistical methods and data-driven decision-making within the context of public health and healthcare systems. Students will gain a multifaceted skill set, combining statistical analysis with information technology to address complex challenges in health-related research and practice.

MPH-503 Health Promotion/Communication/Community *(3 credits)* The Health Promotion, Communication, and Community course explores essential strategies for promoting health, communicating public health messages effectively, and engaging communities to address population health needs. Students will learn to assess population health needs, design evidence-based interventions, and cultivate partnerships for positive health outcomes. Emphasis is placed on selecting appropriate communication strategies, fostering cultural competence, and building coalitions to influence public health. Through interactive learning experiences, students will develop practical skills to promote health, communicate effectively, and engage communities in collaborative efforts to improve population health and advance health equity.

MPH-504 Health Equity & Bias *(2 credits)* This graduate-level course explores the organization, structure, and function of health care, public health, and regulatory systems worldwide. Students analyze implications on access, quality, and outcomes for diverse populations, evaluating effectiveness in addressing disparities. Cultural competency principles are applied to design, implement, and critique public health policies, focusing on mitigating cultural biases. Strategies to address structural bias, inequities, and racism are identified and proposed. Students learn advocacy skills to promote policies improving health in diverse populations, developing persuasive arguments and evidence-based strategies. They also evaluate policies for their impact on public health and equity, informing evidence-based recommendations.

MPH-505 Public Health Perspectives & Environment *(3 credits)* This course explores the dynamic relationship between public health and the environment, focusing on the multifaceted factors influencing population health. Through lectures, discussions, and case studies, students examine the history, philosophy, and core functions of public health, alongside the role of environmental determinants. Topics include disparities in health outcomes, prevention strategies, global health impacts, and ecological perspectives. Practical skills in budget management, program evaluation, policy analysis, and leadership are emphasized, preparing students to address complex public health challenges effectively.

MPH-510 Ethics & Conduct of Research *(3 credits)* Ethics and Conduct of Research explores theoretical and practical issues related to scientific integrity and responsible conduct of research. The course will use a blend of lectures and group discussions to consider ethical concepts and the regulatory framework relevant to scientific research. We will discuss how standards of conduct vary among cultures and communities, as well as authorship and peer review, conflict of interest, scientific misconduct, and ethical issues related to emerging technologies. Students in this course will develop skills for dealing with difficult, real-life problems that researchers face in their professional lives, and discover the resources available to help when issues become challenging. This course satisfies National Institutes of Health (NIH) requirements for training in responsible conduct of research.

MPH-511 Design & Conduct of Clinical Trials *(3 credits)* This course offers a comprehensive exploration of the entire clinical trial process, encompassing key stakeholders, diverse roles, and critical phases involved in bringing a new medical intervention from conception to market. Students will gain a thorough understanding of the roles played by pharmaceutical companies, contract research organizations (CROs), hospitals, and various professionals within the clinical trial ecosystem. The course delves into the intricacies of different trial phases, the pre-clinical stage, and the regulatory pathways, providing a holistic perspective on the design and execution of clinical trials.

MPH-512 Intermed Epidem & Clinical Res Methods *(3 credits)* Intermediate Epidemiologic and Clinical Research Methods encompasses an in-depth exploration of epidemiological principles, study design methodologies, and their application in both public health and clinical research. Students will learn to select

and justify quantitative and qualitative data collection methods for specific public health contexts. Advanced statistical analyses, including multivariate regression and survival analysis, will be covered to interpret data analysis results effectively. Special attention will be given to the development of clinical trial protocols, integrating epidemiological methods. Ethical considerations in research, interdisciplinary collaboration for population health advancement, and the translation of research findings into practice will be integral components of the course. Overall, the course provides a comprehensive understanding of epidemiology and its crucial role in clinical research and public health initiatives.

MPH-513 Analysis of Discrete Data *(3 credits)* Intermediate Biostatistics: Analysis of Discrete Data is a specialized course designed to advance students' statistical proficiency in the context of discrete data analysis within the field of biostatistics. Building upon foundational statistical concepts, this intermediate-level course delves into the complexities of handling categorical and count data encountered in various health-related studies.

MPH-514 Epidemiologic Analysis of Disease *(3 credits)* Epidemiologic Analysis of Disease in Clinical Research is an advanced course tailored to explore the intersection of epidemiology and clinical research, providing students with the skills to analyze and interpret disease patterns within a clinical context. The course emphasizes the application of epidemiologic principles in understanding the distribution, determinants, and outcomes of diseases encountered in clinical settings.

MPH-515 Regression/Prediction/Survival Analysis *(3 credits)* Intermediate Biostatistics: Regression, Prediction, Survival Analysis is a specialized course designed to deepen students' expertise in the application of advanced statistical methods within the realm of biostatistics. Focusing on regression analysis, predictive modeling, and survival analysis, this intermediate-level course equips students with the skills to analyze complex data sets commonly encountered in the field of health sciences.

MPH-520 Global Health Policy Systems *(3 credits)* This course examines the intersection of culture, religion, global power relations and public health systems. What are the obstacles to the promotion of health care in underdeveloped countries? In what ways do global health programs reflect imperialist and colonial thinking? To what extent are "traditional" health care systems considered legitimate by global health leaders? How can public leaders learn from each other? Why do some countries have better public health outcomes than others?

MPH-522 Federal Policymaking & Policy Advocacy *(3 credits)* This course is designed as an in-depth look at how health policy is crafted at the federal level. Students will look closely at the policymaking process, and practice creating and advocating for population-based health policies.

MPH-523 Public Health Law & Administration *(3 credits)* Public Health Law & Administration is a comprehensive course that explores the intersection of legal frameworks, administrative policies, and public health initiatives to promote population health and address pressing societal challenges. Through an interdisciplinary approach, this course aims to integrate perspectives from various sectors and professions to advance public health agendas and foster collaborative solutions.

MPH-524 Population Health & Health Reform *(3 credits)* This course examines health reform work from perspectives outside of the United States public health system. Students will look at population health policies around the world. They will also be asked to engage with views of population health initiatives from other sectors within the US.

MPH-525 Health Policy Research/Analysis Methods *(3 credits)* In this graduate-level course, students will learn how to interpret data from public health research and use these findings to make public health decisions.

MPH-530 Program Planning/Evaluation/Management *(3 credits)* This course provides students with an opportunity to explore fundamental concepts and practical applications in health promotion and prevention. Through a combination of theoretical learning and hands-on experience, students will develop the knowledge and skills necessary to assess population needs, design effective interventions, and evaluate program outcomes.

MPH-531 Innovative Health Communication *(3 credits)* Strategic Multimedia Production and Innovative Health Communication: Design and Delivery explores the communication of public health messages through various media platforms, equipping students with technical production skills and strategic content creation insights to design and deliver innovative health campaigns.

MPH-533 Engagement for Sustainable Health *(3 credits)* Multisectoral Engagement for Sustainable Health delves into the complexities of multisectoral engagement for advancing sustainable health outcomes. The course emphasizes understanding health as more than the absence of disease and is anchored by the social determinants of health framework, which recognizes that successful community health interventions require cross-sector collaboration and an asset-based approach. Rooted in the competencies expected of public health professionals, this course emphasizes strategies for identifying stakeholders, conducting community health needs assessments, building coalitions and partnerships, advocating for policy change, and applying negotiation and mediation skills to address organizational or community challenges. Through theoretical exploration, case studies, practical exercises, and hands-on applications, students will develop the competencies necessary to navigate the dynamic landscape of public health, engage communities effectively, and advocate for positive change across diverse populations.

MPH-534 Community Health Research *(3 credits)* Applied Methodologies in Community Health Research addresses theory and methods of research used by community health researchers. The goals of this course are to understand the fundamental nature, purpose, and application of research; to develop a practical and applied working knowledge of classic and contemporary research methods; and to apply knowledge of research principles and methods as critical consumers of research.

MPH-535 Health & Media Literacy *(3 credits)* Health and Media Literacy for Public Health Advancement takes a critical approach to understanding and applying health and media literacy. Students analyze health literacy case examples and use literacy studies research methods to communicate public health information that different audiences will understand and design health interventions to improve health outcomes for different contexts.

MPH-540 Public Health Internship *(3 credits)* The Public Health Internship is designed to provide students with practical experience in the field of public health, in accordance with the Council on Education for Public Health (CEPH) guidelines of 120 hours minimum. Under the supervision of experienced professionals, students will work in various settings to apply their knowledge and skills to real-world public health issues. Through hands-on projects and activities, students will develop essential competencies, gain insight into public health practice, and contribute to addressing community health needs. This internship prepares students for future careers by bridging theory with practical experience and fostering professional growth. Prerequisite: MPH-541 or instructor permission.

MPH-541 Capstone Seminar *(2 credits)* This seminar course is designed to provide students with comprehensive guidance on various aspects of academic and professional communication. Throughout the course, students will learn about formatting standards, study design principles, and presentation structures and guidelines. Through interactive sessions, workshops, and practical exercises, students will develop proficiency in formatting academic papers according to industry standards, designing research studies effectively, and structuring presentations for maximum impact. Additionally, students will receive feedback and guidance on their work to help them refine their skills and improve their communication abilities. By the end of the course, students will be equipped with the knowledge and skills necessary to excel in conveying their ideas and research findings in both academic and professional settings.

MPH-542 Research Investigation *(3 credits)* In this course, students will embark on a journey of research investigation, delving into methodologies for analyzing both quantitative and qualitative data. Through the lens of biostatistics, informatics, computer-based programming, and software, students will learn how to scrutinize data with precision and depth. What sets this course apart is its emphasis on students' analysis of their own research projects, allowing them to apply the techniques learned directly to their own work. By interpreting the results of their data analysis within the broader context of public health research, policy, or practice, students will not only gain valuable insights but also hone their skills in contributing to the advancement of public health knowledge and practice. Prerequisite: MPH-540.

MPH-543 Symposium in Public Health *(1 credits)* The Symposium in Public Health course provides students with the opportunity to develop and present research posters on relevant public health topics. Through workshops and mentorship, students learn poster design principles, refine their presentation skills, and develop their research projects. The course culminates in a symposium event where students showcase their posters and engage in scholarly discussions with peers and professionals in the field. Prerequisite: MPH-542.

MASTER OF ORGANIZATIONAL LEADERSHIP (ORG)

ORG-501 Organizational Psychology *(3 credits)* Organizational Psychology introduces some of the major concepts and theories used to describe and shape the behavior of individuals and groups in relation to their work environments. It addresses topics such as employee burnout, diversity and equity, engagement, leadership, motivation, performance, values, and wellbeing.

ORG-502 21st Century Leadership *(3 credits)* This graduate level course is designed to strengthen students' leadership abilities by exploring leadership concepts, theories and student's experiences of leading. The role and function of leaders looks very different today than years ago. Change is the norm. Leaders must understand today's challenges and be able to function effectively given a borderless, multicultural, virtual, and diverse group of partners, stakeholders and constituents.

ORG-510 Organizational Communication and Culture *(3 credits)* This graduate level course blends the exploration of a critical, theoretical understanding of organizational culture with the theories and skills of leadership and change, equipping students with the knowledge and ability to develop a healthy, successful nonprofit organization. As part of this course, students will explore how values shape and define organizational culture, along with management structure, geographic scope, size, client groups and governance structures. Students will develop the theories and skills needed to lead organizational change processes.

ORG-511 Quantitative Analysis & Research Methods *(3 credits)* Quantitative Analysis and Research Methods will examine some of the principle analytical tools for decision-making in business and investigation in the social sciences.

ORG-512 Organizational Behavior *(3 credits)* In this graduate level course students will understand and interpret the theories and professional practices as related to organizational behavior. This will help students to acquire and use vital business knowledge and skills, and will invite students to think critically. Students will be able to explain relevant business, organizational, and leadership terms, facts, and processes. This will help students to acquire and use business knowledge and skills, and will encourage students to identify and transform data into useful information for decision-making. Students will analyze information to inform organizational decisions. This will help students to acquire and use business knowledge and skills, will encourage students to identify and transform data into useful information for decision-making, will force students to think critically, and will help students to recognize and evaluate the broad effects of business decisions. Students will demonstrate professional communication skills. This will assist students, as they move forward into their lives and careers, to communicate professionally. Students, working in teams, will propose solutions to a business or organizational case. This will provide students with the benefit of learning to work as members of teams.

ORG-520 Strategic Marketing Management *(3 credits)* This course focuses on refining students' skills in comprehending marketing theories and measuring marketing strategies and seeing how the marketing tactics selected need to be in alignment with strategies, such as the selection of which businesses and segments to compete in, how to allocate resources across businesses, segments, and elements of the marketing mix iTn a dynamic competitive environment.

ORG-530 Conflict and Change *(3 credits)* This course provides the student with an introduction to the study and conflict and its resolution. We will explore the basic theoretical concepts of the field and apply this knowledge as we learn and practice skills for analyzing and resolving conflicts. The first section of the course examines the causes of conflict and explores methodologies for understanding, analyzing, and responding to them. The second section of the course focuses on skills for waging conflicts productively, and for resolving and transforming them. Throughout the course we will examine conflicts occurring within different contexts that stem from a variety of needs and interests.

ORG-531 Profsnl Ethics & Social Respnsblty *(3 credits)* This graduate level course examines the responsibilities of management and senior executives as they lead organizations. The course will focus on stakeholder management, corporate social responsibility, ethics and morality, sustainable development. Students will learn to analyze, question critically, challenge and change ethical and moral standards, priorities, points of trade-off and compromise to be applied to business and professional behavior.

ORG-542 Entrepreneurial Management *(3 credits)* Entrepreneurial Management is intended for graduate students who are interested in exploring the world of entrepreneurship and innovation for the purposes of starting their own venture (venture creation) or helping existing organizations to develop new business opportunities (intrapreneurship). The course is designed to develop critical thinking and problem-solving concepts and promote self-exploration through the investigation and implementation of real business opportunities. The goal is to provide experiential and applied learning opportunities that develop the mindset, skills and competencies that enable students to create their own opportunities and function as innovative leaders in entrepreneurial or high potential firms.

ORG-571 Strategic HR Mgmt & People Analytics *(3 credits)* This graduate level course examines the fundamental issues behind current theory, techniques and practices encountered in human resource management.

ORG-590 International Business Strategy *(3 credits)*

ORG-595 Capstone *(3 credits)* The Organizational Leadership capstone is designed to provide students with the opportunity to synthesize the materials they have worked with over the course of the program. The capstone provides students with a critical learning opportunity either in the form of public service project where students work with a client organization on a specific challenge or task, or conduct original research. The capstone project provides students with the opportunity to pursue a specific body of knowledge within a particular context, thus honing their expertise in a specific knowledge area, while also developing research skills, gathering and analyzing data, and in the case of a project, the opportunity to apply their knowledge and skills to a real-time need. Students are encouraged to work in teams to complete the capstone project.

ORG-INS Organizational Leadership Indep. Study *(1-4 credits)* Independent study course for students in Organizational Leadership master's program.

Academic Policies

Transfer Credit Policies

ADVANCED PLACEMENT CREDIT

Students who participate in Advanced Placement (AP) courses while in high school may submit their score reports to have these credits evaluated to be included on their Juniata College transcripts. Incoming students with scores of at least 4 on an Advanced Placement test may be offered Juniata credits. Selected Advanced Placement tests have been designated by the appropriate academic programs as equivalent to one or more Juniata courses. If the student accepts Advanced Placement credit for such a test, the student is then exempt from taking the equivalent course(s) and in fact may not take the course(s) for additional credit. If an Advanced Placement test is not designated equivalent to a Juniata course, general credits in the appropriate division may still be offered.

Students must visit the College Board website to have an official AP score report sent by the College Board directly to the Registrar's Office; copies of score reports provided in any other manner are not accepted. Refer to the Registrar’s Office website for information on course equivalencies and credits for each of the AP subjects currently being offered by the College Board.

Note: If a student earns dual-enrollment college credit for an AP course and also takes an AP exam at the conclusion of that course, they may earn Juniata College credit only one time. No duplicate credits will be awarded.

INTERNATIONAL BACCALAUREATE

International Baccalaureate (IB) diploma recipients are awarded 30 credits on their Juniata College transcript. IB certificate recipients receive course credit for each higher-level examination passed with a score of 5 or higher. Refer to the Registrar’s Office website for information on course equivalencies and credits for IB courses. Students must have an official IB transcript sent directly to the Juniata College Registrar's Office; transcripts provided in any other manner will not be accepted.

A-LEVEL AND AS-LEVEL EXAMS

Juniata College recognizes A and AS Level curriculum as a challenging academic program that provides excellent preparation for post-secondary study. Juniata awards credit only when an official A or AS Level exam certificate from Cambridge Assessment International Education is

submitted to the Admissions Office. NOTE: Preliminary results, Statement of Results, or unofficial photocopies cannot be used to grant credit. Cambridge typically releases exam results in January (following the November exam series) and August (following the June exam series).

A and AS Level exam results must be submitted directly from Cambridge Assessment International Education via a certifying statement. Exam results should be mailed to: *Juniata College Office of Admission, 1700 Moore St, Huntingdon, PA 16652*.

Once an official copy of the final exam certificate is received by the Admission's Office, the certificate will be evaluated, and credit will be recorded on the Juniata transcript. Students must earn exam grades of A, B, or C to be eligible for Juniata College credit. Credits may be awarded with equivalencies for specific Juniata courses or for generic course equivalency. An A Level exam will earn a student 6 credits and an AS Level exam will earn a student 3 credits. Duplicate credit will not be granted in the same subject area for multiple exams such as A Level, AS Level, AP, or IB. Refer to the chart on the Registrar's Office website for course equivalencies and credits.

TRANSFER CREDIT

For undergraduate students, transfer credit is granted only for academically valid post-secondary-level courses in which the student earns a grade of C- or higher. Passing or Satisfactory grades are accepted only if it can be confirmed via the official transcript key or institution's website that the minimum required grade to earn a P (Pass) or Satisfactory (S) is a C- or higher.

Master's students may transfer a maximum of one-third of the credits required to complete the master's degree program. The credits must be at the graduate level, the institution must be similarly accredited, and the student must have earned a grade of B or higher.

Credit is normally only awarded for courses taken at a similarly accredited institution. If the course is too focused or outside our curriculum delivery, no credit will be granted. Juniata College does not award credit for College Level Examination Program (CLEP) exams, life experiences/Prior Learning Assessment, military or vocational training courses, physical education courses, or athletic participation.

Transfer credit is granted either as a direct equivalent to a Juniata College course or as generic credit.

For credits taken at international institutions to be eligible for transfer credit consideration at Juniata College, the student must submit an official transcript and also purchase a third-party, course-by-course international transcript translation and evaluation. This evaluation must be obtained from a member of either of the two professional associations for credential evaluation services that are recognized by the U.S. Department of Education:

- National Association of Credential Evaluation Services (NACES)

- Association of International Credential Evaluators (AICE)

Current students wishing to transfer credit back to Juniata after matriculation as a full-time degree-seeking student must obtain pre-approval by completing a Request for Clearance of Transfer Credit form available in the Registrar's Office. On this form, the appropriate department chair will note the comparable Juniata course(s), and the student's academic advisors will indicate approval.

Matriculated students may transfer credit according to the following chart:

Transfer credits awarded at time of matriculation	Total number of transfer credits allowed after matriculation	Number of transfer credits allowed to be used in the POE after entry
0 - 23.99	15	8
24 - 53.99	9	4
54 - 86.99	6	0
87 or more	0	0

Exceptions may be made for students participating in cooperative programs, study abroad programs, and other Juniata-approved programs. Students taking a leave of absence to study at another institution that is not a Juniata-approved program must obtain pre-approval by completing a Request for Clearance of Transfer Credit form available in the Registrar's Office. These requests are subject to the guidelines listed above.

TRANSFER CREDIT RESIDENCY POLICY

Students are allowed to transfer credits within the provisions of the transfer policy. However, 30 of the last 36 credits must be taken in residence. There are degree requirements that are unique to Juniata and may not be completed elsewhere. Students participating in cooperative programs, study abroad programs, and other Juniata-approved programs are considered to be in residence. Any exceptions to the residency policy must be approved by the Student Academic Development committee.

Registration Policies

DEFINITION OF A SEMESTER HOUR OF CREDIT

Juniata's guidelines for defining the approximate amount of work required for one semester hour of credit is as follows: For a course composed of classroom instruction, a semester hour of credit would normally involve 14 to 15 meeting times each semester with each lecture class meeting for 50 minutes. For one credit of a laboratory course, the student should have three to four hours of laboratory instruction each week of the semester.

For each hour of classroom instruction, the student is expected to do two hours of preparation. Therefore, a typical three-semester-hour credit course over a semester would include 43 to 44 hours of class meetings and 86 to 88 hours of student work out of the classroom.

REGISTRATION PROCEDURES AND POLICIES

The Registrar, in consultation with the Provost, determines the dates during which students register for courses. During the Drop/Add Period, students may make changes to their schedules in consultation with their advisors. Dates for the Drop/Add Period during the Fall and Spring semesters shall be the first seven calendar days of the semester. Dates for the Drop/Add Period for courses that do not start at the beginning of the Fall or Spring semesters (including Summer and Winter terms) shall be the first two days of the course. Students must seek approval from the Student Academic Development Committee to drop or add courses outside of the Drop/Add Period; any such changes may result in a late drop/add fee. Likewise, failure to register for courses during the registration period may result in a late registration fee.

FULL-TIME STATUS/CREDIT LOAD

An undergraduate student is full-time when registered for 12 or more credit hours in each academic semester. Students who complete on average 15 credits per semester over 8 semesters will earn the 120 credits required to graduate with a bachelor's degree in four years. A master's student is full-time when registered for 9 or more credit hours in an academic semester.

OVERLOAD POLICY

Credit overload is defined as attempting more than 18 credit hours per semester. Unless an exception is made by the Provost, an overload charge is applied to all credit hours attempted above 18 per academic semester. Students who wish to take 19 or more credit hours must be in good academic standing and must obtain by petition the consent of the Student Academic Development Committee or their designee.

No student may take more than 21 credit hours per semester. First-year students may take more than 18 credit hours only during their second semester and must fulfill two special requirements: (a)

satisfactory completion of all their first semester courses attempted, and (b) approval by advisors and/or other appropriate faculty as determined by the Registrar.

An overload fee is assessed is made for all credit hours attempted above 18 per academic semester. No refunds are given for course withdrawal from an overload after the drop/add period. If a student registers for an overload and then withdraws from the College, a refund will be made according to the official refund policy.

CLASS STANDING

Class standing and satisfactory progress are measured on the basis of a student's ability to complete their studies in four years by carrying a normal course load each semester. A student is making satisfactory progress and has achieved the class standing at the semester credit hour intervals as listed below:

Freshman: from 0 to 23.99 credit hours
Sophomore: from 24 to 53.99 credit hours
Junior: from 54 to 86.99 credit hours
Senior: 87 or more credit hours

AUDITING COURSES

Persons who wish to audit classes may make arrangements with the Registrar to attend one or more courses without receiving grades or credit. The decision to audit a course must be made by the end of the drop/add period. The transcript does carry notations of audited courses. Permission of the course instructor is necessary, and an auditing fee may be assessed. Special and occasional academic course fees remain in effect (lab fees, field trip fees, etc.).

REPEATING COURSES

Students who wish to repeat a course must consult with the Registrar. Although credit may not be granted more than once for most courses, there is no limit on the number of times a student can retake a course for an improved grade. Only the highest grade received will be reflected in the student's grade point average.

INDEPENDENT STUDY, CREDIT BY EXAMINATION, TUTORIAL, AND SPECIAL TOPICS COURSES

A student may wish to pursue credit-bearing courses not listed as standard course offerings. These courses are considered part of the normal load of a student and, if taken as an overload, are subject to overload fees.

Independent Study

Students applying for an Independent Study must make arrangements with a faculty member and register for the course (using forms available in the Registrar's Office and on the Registrar's website) by the end of the drop/add period for the term in which the credit will be earned. The instructor will designate a syllabus, text, or other materials required and will submit to the

Registrar an explanation of course requirements (i.e., examinations, papers, and faculty-student conferences). A student may enroll for no more than two Independent Studies in a semester. An Independent Study is considered an upper-level course; no more than two Independent Studies are permitted in a POE. Independent studies will carry no General Education designations.

Credit by Exam

Students may be given credit for some courses without participation in class meetings but by meeting all other requirements of the courses. To determine if a course is available for Credit by Examination (CBE), the student should consult the faculty member who is currently teaching the course. If the course is not currently offered, a faculty member may conduct the course on a CBE basis. A course may be offered as CBE only to full-time Juniata students. CBE is intended to be used as an option when scheduling conflicts prevent a student from scheduling a course required for graduation, which will not be available in any other semester prior to their graduation and cannot be fulfilled by any other course. The decision to offer a course CBE rests solely with the faculty member responsible for the course, since not all courses lend themselves to this format (e.g., courses dependent on discussions and field trips and laboratory courses). The deadline for CBE registration is the end of the drop/add period during the semester in which the course is to be taken.

Tutorial/Teaching Assistant

In a tutorial, the faculty instructor and the student work closely on a regularly scheduled basis involving lectures, demonstrations, explanations, and evaluation. The purpose of the tutorial is to enable a student to pursue a study which is too complex either in nature or scope to address as an independent study. Through regular contact with the instructor, the student will benefit from their expertise on a highly individualized basis. Some tutorials are arranged to assist the faculty with classroom activities and review sessions for large introductory classes. No pay is associated with students who are earning credit for the course.

Special Topics Courses

Faculty members may offer courses as a "special topic" with the approval of their departmental chair. Special topics courses are numbered as 199, 299, 399, or 499, where the course level is indicated by the first digit. Such courses provide a means for instructors to (1) teach topics which are of timely but ephemeral interest or (2) teach a course on a trial basis. They are expected to be as academically rigorous as designated courses. Special topic courses may be offered three times before a course must be formally approved. Special topics courses may be included in a student’s POE, but they may not fulfill general education requirements unless approved to do so by the General Education Committee.

SUMMER AND WINTER SESSIONS

Juniata offers Summer and Winter Term courses designed for a wide variety of students, typically in an online format. The course offerings are a subset of those offered during the regular year and are similarly rigorous.

Summer and Winter Term online courses may not be audited.

UNDERGRADUATE ENROLLMENT IN GRADUATE COURSES

Undergraduate students pursuing a baccalaureate degree at Juniata College may take graduate courses at the 500-level or above, if the student meets the following eligibility criteria:

- The student has senior class standing, except for the Master of Public Health courses, which require junior standing or above
- The student has a minimum cumulative grade point average of 3.0

Up to nine graduate credits can be taken as an undergraduate student, except for the MPH program, which allows up to 12 graduate credits to be taken as an undergraduate. Students may not double-count credits towards an undergraduate and graduate degree. Therefore, only those graduate credits that exceed the 120 credits required for a bachelor's degree can be counted toward an advanced degree.

Students must complete the graduate course with a B- or better for the credits to be eligible for transfer to a Juniata College graduate degree program. Internal transfer of credit is subject to specific graduate program transfer credit regulations. Graduate courses are not eligible for the pass/no pass grading option.

Exceptions to this policy may be requested by petitioning the Graduate Studies Committee.

Class Policies

CLASS ATTENDANCE

Unless notice is given to the contrary by the course instructor, Juniata College expects every student to attend all classes without fail. Regular attendance of classes is necessary for reasonable progress for most students.

Faculty members have an obligation to make students aware, in writing, of their policy regarding absences from class, grading criteria, and examination policies. This information should be available during the Drop/Add Period in order that students may recognize schedule conflicts or prerequisite problems in time to make changes.

The faculty member is expected at all times to be familiar with the attendance behavior of their students and should maintain such records as are necessary to achieve this end.

If a student is absent and approaches the faculty member for assistance in making up the missed work, the faculty member is expected to assist in so far as possible if the absence was for one of the following reasons: the student's illness, the illness of an immediate member of the family, a college-approved activity, or some emergency. For other reasons, assistance may

be given to the student at the discretion of the faculty member. In special cases, the Dean of Students may certify the absence of a student for medical reasons on the request of a faculty member.

FIELD TRIPS

Juniata recognizes that field trips are important experiential learning events and encourages faculty whose courses are affected to make every effort to accommodate students whose courses include planned trips.

Faculty wishing to schedule mandatory out-of-class field trips are required to include the field trip dates in the course syllabus prior to the end of the drop/add period.

ABSENCES DURING ELECTION CAMPAIGNS

The participation of students in November elections can be a valuable educational experience. The fourth paragraph of the above policy is adequate to cover absences for this purpose. A student may be excused by the faculty member with the privilege of making up missed work, but the student must give prior notice to the faculty member of their intention to be absent for a stated period of time to engage in such activities. If the faculty member wishes to do so, they may require that on return, the student present bona fide evidence validating the reason for the absence.

CANCELLATION OF CLASSES

Noting the very high number of canceled classes during the week prior to vacations, the faculty has gone on record as condemning the practice of canceling classes on the day before or the day after vacations. Any exceptions should be cleared with the Provost.

FINAL EXAMINATIONS

Written examinations are usually given in each course during the examination period at the end of the semester. Final examinations must be taken during the designated final examination period at the end of each semester. (This means faculty are not permitted to schedule final examinations during the last week of classes or during Reading Day.) The schedule is prepared by the Registrar, and students are expected to take examinations at the announced times. Exceptions to this rule may be granted by the Registrar in consultation with the Student Academic Development Committee if the Registrar deems it necessary.

Standing practice has set an unofficial guideline that final examinations, if given, are to be calculated at between one-third and one-half of the final grade. Final examinations may be repeated. In addition to final exams, faculty members are strongly urged to give frequent quizzes and tests throughout the semester, with or without advance notice.

Grading Policies

GRADING POLICY

For each course, faculty members should develop clear attendance and grading criteria which should be stated unambiguously to the student at the beginning of the course, preferably in the course syllabus. The criteria should explain the relative value of class work, field trips, papers, and final examinations. Changes during the term in the system must be announced clearly to the students, preferably in writing.

Although the instructor sets the grading criteria, they should not do it arbitrarily, for the criteria should represent the best measure of the student's achievement and should use standard letter grades unless specifically authorized to use the Satisfactory/Unsatisfactory (S/U) grading system. While setting the grading criteria, the instructor should consider their expectations of students in terms of exams, papers, and other coursework. If attendance in the classroom is considered vital to the learning experience of the student, it may enter into the calculation of the grade, but if the course is conducted in such a manner that the student can progress equally well by completing their assignments whether they attend class or not, then classroom attendance is not a legitimate indicator of the student’s progress and should not enter into the computation of the grade.

GRADING DEFINITIONS

Standard Letter Grades

In the majority of courses, standard letter grades are used:

- “A”— indicates work of the highest excellence, showing a superior grasp of the content as well as independent and creative thinking in the subject.
- “B” — signifies unusual achievement wherein the student reveals exceptional insight and ability.
- “C” — is given for satisfactory achievement on the college level where the work of the course has been conscientious and shows no considerable deficiency in either quality or quantity.
- “D” — indicates that the work of the course is of less than average or of marginal quality.
- “F” — signifies work which is distinctly unsatisfactory at the college level.

A grade of A may be qualified by a minus (-). Grades of B, C, and D may be qualified by a plus (+) or minus (-). For the permanent record, a grade point average (GPA) is compiled, and the GPA appears on the transcript. The following equivalents should be used for calculating the GPA:

A = 4.00	C = 2.00
A- = 3.67	C- = 1.67
B+ = 3.33	D+ = 1.33
B = 3.00	D = 1.00
B- = 2.67	D- = 0.67
C+ = 2.33	F = 0.00

Satisfactory/Unsatisfactory (S/U) Grades
Performance in a few courses is graded as S or U. These courses must be specifically authorized for S/U grading through the course approval process.

Audits (AU)
Performance in audit classes is given a grade of AU. This is given regardless of the students' participation. Audits cannot be changed after the drop/add period, and it is up to the faculty to determine at what level a student should participate in their class. There is no withdrawal from audit coursework; if a student stops attending, they will still receive an audit with no grade or credit.

Irregular Grade Designations
In addition to the regular grade designations, the following irregular grades are used as occasion may demand. The following grades are for individual courses.

I (incomplete)
At the discretion of the faculty member involved, a grade of incomplete may be submitted. This option is to be used sparingly, however, and only when the student has given a satisfactory explanation (such as extended illness or accident) for failure to complete a required piece of work. Otherwise, a student receives an F for a course which is not completed. Simple preference on the part of the student for an extension of time is not regarded as sufficient cause for granting an incomplete. Upon the granting of an incomplete, the student must complete the work within three weeks of the beginning of the next semester of the academic year, or an F automatically will be recorded. Any exceptions to this policy must be approved in writing by both the instructor and the Registrar.

P/NP (Pass/No Pass)
In consultation with their advisors, undergraduate students may elect to take up to 32 credits of coursework, not exceeding 8 courses, on a P/NP basis; however, only one of these courses (not exceeding 4 credits) can be in the student's POE. In order to receive a grade of P (Pass), a student must complete the course with a final grade of D- or better. A course grade below D- will result in zero credits for the course and a record of NP (No Pass) on the transcript. P/NP grades are not calculated into the GPA.

Students will have until noon on the last day of classes of the term during which they wish to take a course P/NP to elect the P/NP option. The instructor will not be apprised of the change in grading status. Students wishing to revert to a regular grade for any P/NP course taken at Juniata College can do so by the last day of classes of their graduating semester.

Individual departments and programs have the academic discretion to identify those courses that may not be taken P/NP. A list of courses that cannot be taken as P/NP will be maintained by the Registrar's office.

Students should consult with their POE advisor to determine whether specific POE classes may be taken P/NP. Students are also urged to discuss the implications of executing the P/NP

option with academic advisors as admission to professional programs and/or eligibility for scholarships may be affected.

W (course withdrawal)
A withdrawal grade of W is recorded when a student drops a course after the official drop/add period at the beginning of the term and before the withdrawal deadline. W grades are not calculated into the GPA.

A student may withdraw from a course, with documented consultation with the student's current advisors, up to the withdrawal date listed on the course syllabus. If the instructor has not indicated a final withdrawal date on the syllabus, the default deadline reverts to noon on the last day of classes that term.

Withdrawals will be considered complete when they are filed with the Registrar's Office. A student who does not complete the withdrawal process will receive the grade currently earned at the time the course instructor submits final grades.

Withdrawal from courses may impact financial aid and/or intercollegiate athletic eligibility. Students are encouraged to discuss these implications with family, academic advisors, coaches, and counselors from Student Financial Planning or the Dean of Students Office.

Exceptions to this policy may be made via appeal to the Student Academic Development Committee.

If a student withdraws from the College during a semester, the Registrar will enter a grade of W for all registered but not completed courses. W grades are not calculated in the student's cumulative GPA but may have other ramifications. Students who withdraw during a semester may still have financial obligations to the College. Students are encouraged to discuss these matters with family, academic advisors, and counselors from Student Financial Planning and the Dean of Students Office.

NOTIFICATION OF GRADES

Midterm Notices

Midway through the semester faculty will send a midterm notice to each individual student who is doing less than C work in a particular course. This notice is intended to make students aware of unsatisfactory performance in a course at a time when they have a chance to adjust to problems which could prevent them from achieving a passing grade.

Final Grades

Faculty members must report final grades to the Registrar within the time frame specified by the Registrar's Office. Prompt notification to students depends on prompt processing of submitted grades. Final grades, once submitted, may not be changed except under unusual circumstances and then must be accompanied by rationale and approved by the Provost.

Performance in all courses should be reported to the Registrar by the faculty using the grading system approved for the course. Only grades of A(-), B(+,-), C(+,-), D(+,-), S and P are given credit toward a degree.

Grade reports will be posted by the Registrar’s Office at the conclusion of each term. Grade reports are available to the student through an online portal. Students wanting to have a grade report sent to their permanent address or another third party must submit the request to the Registrar’s Office.

The Transcript

The transcript is a complete record of a student's coursework (identified by course name, catalog number, and term of registration), credit earned, grades (including W) and quality points assigned, and cumulative grade point average based on all attempted courses graded A, B, C, D, or F (+ or -). In addition, the following notations are reported on the transcript: Deans' List, graduation honors, some program certification notices, academic actions, and certain disciplinary actions.

The student may request through the College’s authorized transcript service that an official transcript of the record be sent to an individual or institution. Official transcripts are for the use of a third party and bear the College seal. Unofficial transcripts are for personal use by the student and bear no seal. Refer to the Registrar’s Office website for detailed instructions on placing a transcript order

No transcript of a student's permanent record will be issued without authorization from the student. No telephone or third-party requests will be honored. Members of the faculty or administration may have access to the records if they have a legitimate educational interest in and demonstrate a need for the information.

GRADE APPEAL

The assignment of grades for academic work is an important matter which falls within the professional responsibility of each individual faculty member. Grades are determined in such a way as to reflect as accurately as possible student performance according to criteria available to the student and to protect the academic freedom both of the faculty member and the student. There is an inherently subjective element to grading, but it does not follow from this that grading is done in an arbitrary fashion.

A student may dispute a grade given in or for a course. When this occurs, the student should follow the appeal procedure outlined below. The faculty member issuing the grade has final authority and responsibility for determining that grade.

1. Within two weeks of the time the questioned grade is received, the student should talk to the faculty member who assigned the grade and attempt to resolve the issue.
2. If the course is team taught and no resolution is achieved, the student may request, where course policy permits, a second faculty opinion from another section leader in the

course selected by the director of the course. If this is permissible and the opinion of the second leader differs from the opinion of the first in the disputed grade, the course syllabus or past practice in the course should specify how these different opinions are resolved. Where there are recognized past practices, these should be included in the course syllabus.

3. If no resolution of the grade dispute is achieved after steps 1 or 2, the student should discuss the matter with the department chairperson or course director. In this case, the function of the chairperson or director is to attempt to determine the relevant facts and mediate the disagreement.
4. If no resolution is achieved at step 3, the matter may be referred by the student or the faculty member to the Provost, whose function it is to mediate the disagreement. The Provost will confer privately with the faculty member and the student and may call additional witnesses. Following this process, the faculty member communicates to the student the final decision. This step is the final step in the appeal process.
5. It is expected that a final decision will be made within four weeks of the time the questioned grade is received. All parties are requested to adhere to the deadlines.

ACADEMIC INTEGRITY POLICY

Standards of Academic Integrity

All members of the Juniata College community share responsibility for establishing and maintaining appropriate standards of academic honesty and integrity. Students oblige themselves to follow these standards and to encourage others to do so. Faculty members also have an obligation to comply with the principles and procedures of academic honesty and integrity as listed here through personal example and the learning environment they create.

One of the strongest traditions in higher education is the value the community places upon academic honesty. Academic integrity is an assumption that learning is taken seriously by students and that the academic work that students do to be evaluated is a direct result of the commitment of the student toward learning as well as the personal knowledge gained.

Academic dishonesty, therefore, is an attempt by a student to present knowledge in any aspect as personal when in fact it is knowledge gained by others.

Examples of academic dishonesty are the following:

1. Cheating: using or attempting to use unauthorized material in any academic exercise. This can include using unauthorized materials (e.g., notes, examination copies, electronic sources), having or accessing unauthorized materials during the examination time, or going against explicit instructor directions for the completion of an assignment or exam.

2. Plagiarism: This involves presenting another's work (i.e., ideas, representations, or words) as one's own without proper acknowledgment of the source. Citation is unnecessary when ideas or information are considered common knowledge.

3. Fabrication and Falsification: altering or inventing any information or citation in any academic exercise.

4. Multiple Submission: submitting substantial portions of the same academic work for credit more than once without authorization.

5. Abuse of Materials: damaging, destroying, stealing, or in any way obstructing access to library or other academic resource material or academic records.

6. Complicity in Academic Dishonesty: intentionally helping or attempting to help another commit an act of academic dishonesty; unauthorized collaboration on any academic work. (Collaboration is not permissible unless a faculty member specifically indicates the extent to which students may collaborate on a given assignment.)

7. Failing to cooperate in the investigation of any student being accused of academic dishonesty.

The penalty for academic dishonesty may lead to dismissal from the college, particularly if it is a repeat offense.

Academic Dishonesty Policy

If a faculty member suspects that an issue with academic integrity has occurred, they should first contact the Associate Provost. The Associate Provost will review the case information with the instructor, clarify questions they may have about the process, and guide the instructor in the next steps.

If the instructor and Assoc. Provost determine together that there is sufficient evidence to move forward, then:

(A) The instructor should contact the student involved (one meeting per student, if multiple students are involved), and share their concerns. This interaction should be brief and informal, along the lines of, "I have some concerns about your assignment/exam/paper in course ---, specifically it appears that -----, and I wanted to solicit your feedback." The instructor can answer any questions the student may have or refer them to the Assoc. Provost.

If the instructor feels that no violation occurred after this interaction with the student, then the Assoc. Provost is notified, and the case concludes.

Otherwise, (B) the Assoc. Provost provides a blank allegation sheet for the notified to complete.

(C) If the student has previous academic integrity violations on file this information is NOT shared with the instructor and does NOT influence the current incident, but the student could be referred to a Judicial Board hearing after the conclusion of this incident.

The instructor completes the allegation sheet, including a description of the allegation and the associated penalty, and returns it to the Assoc. Provost. When considering the penalty, the faculty member (in light of the nature and seriousness of the offense and in consultation with the Assoc. Provost) assigns one of the following:

- a warning
- a reduced or failing grade for the assignment
- a reduced or failing grade for the course
- another penalty the faculty member deems appropriate for the violation

Materials related to the incident, including copies of the papers/exams/assignments etc., should be provided to the Assoc. Provost. Note that if a case is considered at the end of the semester or some other time when all the parties involved are not available, an instructor should assign a course grade of "I" - Incomplete until the matter is resolved.

The Assoc. Provost then shares the completed allegation sheet with the student and schedules a meeting with the student, instructor, and Assoc. Provost. In unusual circumstances, a support person may attend this meeting with the student. If there are multiple students involved in one incident, each has a separate meeting. All signatures (student, instructor, and Assoc. Provost) are done together in this meeting.

At the meeting, the allegation and penalty are presented and then discussed. The student then chooses between:
(1) Admitting to the allegation and accepting the penalty
(2) Admitting to the allegation but disputing the penalty
(3) Denying the allegation

If the student chooses option (1), the completed allegation sheet and associated materials are saved in a confidential file, and the incident is considered closed. This file is destroyed when the student separates (graduates, transfers, withdraws, etc.) from the college. While the student may choose to disclose the incident to others, this matter is confidential, and the Assoc. Provost and instructor do not.

If the student chooses option (2) or (3), they are referred to a Judicial Board hearing. The Judicial Board then determines whether a violation occurred and/or the associated penalty. Procedures for Judicial Board hearings are detailed in the Pathfinder and Faculty Manual, and their results are communicated via a letter from the Provost's Office.

If a grade penalty is to be levied on student work due to an academic integrity violation, this policy is to be followed. If the violation is considered particularly egregious when it is initially encountered, the student(s) may be referred directly to a Judicial Board hearing.

Students are not permitted to drop or withdraw from a course until an academic integrity allegation is resolved.

Note that except in extraordinary circumstances, academic integrity issues will not be pursued if a final grade for the student has been submitted in the course or an inordinate amount of time has passed.

As noted above, if the student has previous academic integrity violations on file this information is NOT shared with the instructor and does NOT influence the current incident, but the student could be referred to a Judicial Board hearing after the conclusion of this incident.

If in the course of the academic integrity process, a situation related to the Title IX of the Education Amendments of 1972 is revealed, the administrator implementing the academic integrity policy will ensure that the Title IX Coordinator, or Deputy, is notified and any necessary reports are made. After consultation with the Title IX Coordinator, or Deputy, an alternative process to resolve the academic integrity may be pursued, possibly to preserve privacy and confidentiality. In these cases, to the extent possible, the input and guidance of the reporting faculty member will be incorporated.

Academic Honors

DEAN'S LIST

At the end of each Fall and Spring Semester, the Provost announces the Dean's List. Matriculated students are named to the Dean's List when they have completed at least 12 graded credits for the semester, they achieve an average of 3.60 or better, and they have no unsatisfactory grades (F, I, NP, U). Courses graded S/U or P/NP do not count towards the 12-credit minimum.

A notation of Dean's List achievement appears on the transcript.

Juniata students studying abroad will not be eligible for the Dean's List. Students who are partner degree visiting students and visiting non-degree students are also not eligible for this notation.

GRADUATION HONORS

Honors are conferred upon bachelor’s degree conferral according to the following grade point average scale:

summa cum laude	*3.90 - 4.00*
magna cum laude	*3.75 - 3.89*
cum laude	*3.60 - 3.74*

Students who are partner degree visiting students are not eligible for graduation honors.

DISTINCTION IN THE POE

To achieve distinction in the POE, a student must fulfill all graduation requirements and complete a senior experience that integrates several areas of their POE. This requirement can

be fulfilled in many ways. Some possibilities might include: an original independent creative project that involves significant academic work, such as laboratory research resulting in a significant report; a major paper on a well-defined project; a body of artistic work equivalent to a major exhibition or performance; or field experience (e.g., student teaching or certain internships) culminating in a significant report. The project must be evaluated and judged worthy of distinction in the POE by two faculty members, at least one of whom must be from the home department. The project must also be presented in a forum open to all interested parties, either at Juniata or to an outside audience such as the National Conference on Undergraduate Research (NCUR).

Departments and programs will be free to establish further requirements for receiving distinction in the POE, including higher GPA requirements.

Departments shall forward the names and forms of successful candidates for distinction to the Registrar's Office.

Standards of Progress

GOOD ACADEMIC STANDING

Students who meet the following criteria are in good academic standing. Students who are not in good academic standing will be subject to an academic action and participate in the Academic Recovery process. All criteria will be assessed at the end of each semester, except the percentage of attempted credits, which will be assessed at the end of each academic year.

Grade Point Average (GPA)

Each student must meet both of the following requirements:

- maintain a grade point average of at least 1.66 each semester.
- maintain a cumulative grade point average of at least the minimums given in the table below.

Credit Hours Attempted	Grade Point Average
0-35.99	1.66
36-61.99	1.80
62-89.99	1.95
90 or more	2.00

Credit Completion

Each student must earn 67% of their attempted credits.

In addition, full-time, degree-seeking, undergraduate students must earn at least 12 credits per semester.

MONITORING OF GOOD ACADEMIC STANDING AND ACADEMIC ACTIONS

The Registrar is responsible for identifying and notifying students who are not in good academic standing. Notification is also sent to academic advisors and other college officials as appropriate.

Good academic standing is determined at the end of the fall and spring semesters.

Academic Alert, Academic Warning, Academic Suspension, and Dismissal constitute a progression of levels of warning and support. The Registrar may enact these academic actions without progressing through all previous levels.

Academic Alert and Academic Recovery

The first time a student is not in good academic standing, the student will be given an Academic Alert and participate in Academic Recovery during their next semester of enrollment.

Students in Academic Recovery are expected to work with their academic advisors and other staff to design an academic improvement plan that describes how the student can regain good academic standing. The academic improvement plan must involve one or more individuals who will partner with the student for regular encouragement and accountability.

Academic Warning, Academic Suspension, and Dismissal

Students who do not return to good academic standing after participating in Academic Recovery may be given additional warning and support through the academic actions of Academic Warning, Academic Suspension, and Dismissal. Students who have received an Academic Warning or are returning from Academic Suspension will continue to participate in Academic Recovery with additional oversight.

- Academic Warning signals that a student may be at risk for Academic Suspension or Dismissal.
- Academic Suspension is a hiatus in enrollment during which a student is to reflect on their progress in order to make changes that will allow them to return and be academically successful. A student who has been suspended must work with the Dean of Students Office to return from suspension.
- Dismissal is a separation from the College that signals that a student has consistently not demonstrated ability to succeed academically at the current time.

The Registrar will keep a record of criteria for the different levels.

Students have the right to appeal Academic Suspension and Dismissal. Appeals should be made through the Registrar's Office and are based on the procedures and criteria established by the Student Academic Development Committee.

Students who have been dismissed may reapply to the Dean of Students Office for readmission. The student and their advisors will be notified of the results of the appeal. Students who successfully appeal Academic Suspension or Dismissal will have Academic Warning noted on their transcript.

Financial Aid Probation

In accordance with federal regulations, students must be in good academic standing at the end of an academic year in order to receive continued financial aid unless the student successfully appeals based on the procedures and criteria established by the Office of Student Financial Planning.

If the student appeal is successful, the student will be placed on Financial Aid Probation and will be reassessed to determine if they are in good academic standing at the end of their next semester of enrollment.

If a financial aid appeal is denied, the decision is final. A student may be able to re-establish eligibility on their own, for future semesters, by completing sufficient credit hours and/or improving their GPA such that they are in good academic standing. Students can consult with the Office of Student Financial Planning regarding questions about re-establishing eligibility.

Hiatus and Withdrawals

Students who want to pursue a program of study at another institution, engage in other off-campus educational experiences, and/or address personal issues without severing their connection with Juniata may request a leave of absence. A leave of absence is granted only with written approval from the Dean of Students Office in consultation with the Registrar. Absent extraordinary circumstances, a leave of absence will not exceed one year.

Any student who plans to take a leave of absence should consult the Registrar, Student Financial Planning, and The Dean of Students Office.

Voluntary Medical Leave of Absence

When a student's health impedes normal academic progress and/or a situation requires a student to leave the College for one or more weeks, the student may seek a voluntary medical leave of absence. A medical leave of absence is granted through the Dean of Students Office in consultation with the Registrar. The student will be required to submit supporting documentation from his or her medical/health care provider to substantiate the need for the leave. A student on a medical leave of absence will be required to submit documentation from his or her medical/health care provider attesting to the student's ability to return from the leave

of absence (and outlining any reasonable accommodations, if applicable) prior to expiration of the leave of absence.

Upon receiving notification of an approved medical leave of absence, the Registrar will enter a "W" grade for all registered but not completed courses in the current semester. "W" grades are not calculated into the student's cumulative GPA but may impact progress towards the degree standards. A student who is granted a medical leave of absence may still have financial obligations to the college. The student should consult with Accounting Services and Student Financial Planning to clarify any outstanding financial obligations.

Involuntary Medical Leave of Absence:

A student may be required to take an involuntary medical leave of absence in situations where the student is a threat to his own health and safety or the health and safety of others, or where the student's illness or behavior interferes with the academic pursuits of the student or others or interferes with the regular activities of the College community. The student will be notified by the Dean of Students of the reasons for the involuntary leave and any conditions for the student's return. The student will be required to submit documentation from the student's medical/health care provider attesting to the student's ability to return from such a leave (and outlining any reasonable accommodations, if applicable). Supporting documentation, along with the student's written request to return to the College, must be received by the Dean of Students at least 30 days prior to the first day of the semester in which the student wishes to return. This is designed to provide the College with sufficient time to evaluate the documentation and the student's request to return as well as to ensure that the student no longer presents any potential threat.

A student on an Involuntary Medical Leave of Absence will receive a "W" grade for all registered but not completed courses in the current semester. "W" grades are not calculated into the student's cumulative GPA and will not be reviewed for academic progress. Financial obligations to the College will be pro-rated based upon the date of involuntary medical leave.

Military Leave of Absence:

A student who receives orders to report for active military duty should contact the Dean of Students Office. The student should be prepared to present a copy of military orders (if timing does not permit an initial presentation of military orders, the student may begin the leave process by submitting, in writing, a personally signed request indicating times and dates of intended call-up). However, when available, a copy of the military orders must be provided in order for the leave process to be completed and any financial reimbursements made.

The Dean of Students Office will notify the Registrar's Office, Accounting Services, Student Financial Planning Office and if appropriate the Office of Residential Life to expedite the military leave of absence process. The Registrar will enter a grade of "W" for all registered but not completed courses in the current semester. If the leave occurs late in the semester, the student may arrange for a final graded evaluation of their course work or take Incompletes for all

remaining coursework. The Registrar will add the notation of "Military Leave of Absence" to the student's transcript.

The Student Financial Planning Office will provide information on the status of the student's financial aid, including information on deferring any loan payments.

The College will refund complete tuition payments to a student who processes a military leave of absence for the current semester. Room and board charges will be prorated based upon the date of the military leave of absence (No refunds can be made until the College has received a copy of the military orders calling the student to active duty).

Upon completion of active military duty, the student will be automatically readmitted to the College by notifying the Registrar's Office in writing of their intent to resume academic study at Juniata. All rights, privileges, academic status and rank are resumed at the same level as prior to the Military Leave of Absence.

Medical Withdrawal:

A student may make a request for a medical withdrawal from a course, or withdrawal for other extraordinary circumstances, through the Dean of Students Office or the Student Academic Development Committee. A request for a medical withdrawal must be accompanied by supporting documentation from the student's medical/health care provider.

Upon receiving notification of an approved medical withdrawal, the Registrar will enter a grade of "W" which will not be calculated in the student's cumulative GPA. Medical withdrawals may impact College progress- towards-the-degree standards. Students are encouraged to discuss these implications with family, faculty advisors and counselors from Student Financial Planning or the Dean of Students Office.

Withdrawal from College:

If a student is considering withdrawing from the College, an appointment should be arranged with the Dean of Students Office. A student should meet with the Dean of Students Office to discuss withdrawal procedures and to complete the appropriate exit forms.

If a student withdraws from the College during a semester, the Registrar will enter a grade of "W" for all registered but not completed courses. "W" grades are not calculated in the student's cumulative GPA but may have other ramifications. Students who withdraw during a semester may still have financial obligations to the College. Students are encouraged to discuss these matters with family, faculty advisors and counselors from Student Financial Planning and the Dean of Students Office.

Degree Completion

Degree Completion programs are designed for former Juniata College students who are not GPA deficient and wish to complete the requirements to earn a Juniata degree.

The readmission process requires the students contact the Dean of Students Office for readmission for degree-seeking status. These students do not enter through Admissions as they are not first-time degree seeking students. Once they have been cleared by the Dean of Students, they are forwarded to the Registrar's Office for formal readmittance.

Fresh Start Program

A student who returns to Juniata College after a separation of at least two years may apply for the Fresh Start policy to be applied after successful completion of 12 credits in the first full semester after their return to Juniata. This policy treats the student as if they were transferring to Juniata, resetting their GPA starting from the point of readmission while maintaining credits earned and Juniata requirements met prior to the separation.

The following policies apply to the Fresh Start program:

- A student who leaves the College with a cumulative GPA of at least a 2.0 is not eligible to apply.
- A student with outstanding Incomplete grades in the semester after readmission is not eligible to apply.
- At least 12 of the attempted credits in the first semester after readmission must be graded credits.
- If more than 12 credit hours are attempted in the first semester after readmission, eligibility will be determined by the average earned on all credit hours.
- An eligible student will receive degree credit for only those Juniata courses for which grades of D- or better were earned prior to re-entry. Any transfer courses will be treated according to transfer policies.
- Any grades earned prior to readmission will not count in determining the new cumulative GPA.
- All grades will remain a part of the transcript.
- After readmission, a student must earn 30 of their final 36 credits at Juniata College.
- A student may earn academic honors based on their GPA after readmission.
- If requirements in General Education or the student's POE have changed, the General Education Committee or the relevant department chair will determine any adaptations.
- The option for a Fresh Start will be extended only once during a student's undergraduate enrollment at Juniata.

Exceptions to Academic Policies

Most exceptions to academic policies are processed by the Student Academic Development Committee.

Exceptions to academic policies that involve Title IX of the Education Amendments of 1972 are processed by the Title IX Coordinator or Deputy. Exceptions to academic policies that involve the Americans with Disabilities Act are processed by the Director of Student Accessibility Services or their supervisor, as chosen by the student. Final approval for either exception is provided by the Provost or the Provost's designee.

Academic Opportunities & Resources

Academic Opportunities

Preprofessional Programs

HEALTH PROFESSIONS

Juniata College offers advising for entry into professional and graduate school training in health-related fields such as Allopathic Medicine, Chiropractic Medicine, Dentistry, Genetic Counseling, Healthcare Administration, Nursing, Occupational Therapy, Optometry, Osteopathic Medicine, Pharmacy, Physical Therapy, Physician Assistant, Podiatric Medicine, Public Health, and Veterinary Medicine. Students interested in a career in the health professions must meet the specific requirements for admission to a professional school. Since these requirements vary from school to school, the students consult with a member of the Health Professions Committee as they prepare their courses so that students not only have an excellent chance of acceptance into professional schools but also receive a breadth of knowledge that provides a firm foundation for their liberal arts education.

Students are encouraged to gain in-depth exposure to the health sciences through various types of opportunities that include internships at health care facilities, shadowing of health professionals, health-related course work, and/or various research opportunities on and off campus.

Juniata offers exceptional preparation for students interested in rural medicine through coursework and opportunities in the local area. To assist students with professional school applications, seminars and workshops on health professions careers, admission exam preparation, and other topics are offered.

LEGAL STUDIES & PRE-LAW

Students interested in pursuing a career in the legal field should seek a broad undergraduate experience in the liberal arts and develop strong writing, research, logic, and communication skills. They are encouraged to develop proficiency in another language and to study abroad. Juniata offers a program of emphasis or a secondary emphasis in legal studies. In addition, Juniata supports students through an active commitment to pre-law advising and programming. Students can take courses in politics, criminal justice, conflict resolution, and other areas relevant for pursuing a career in law.

Juniata also offers internships geared toward legal studies and pre-law students.

A special arrangement with the Duquesne University School of Law allows students to apply for admission to the Law School after three years of undergraduate study, allowing them to complete their degrees in six rather than seven years. Students must have an LSAT score that puts them at or above the 75th percentile, and a GPA of 3.36 or better.

SOCIAL WORK

The Dorothy Baker Johnson and Raymond R. Day Social Work Program, accredited by the Council on Social Work Education since 1982, prepares students for entry-level professional practice. Graduates earn the BSW credential, which qualifies them to become licensed generalist social workers in several states, including Pennsylvania.

A second objective is to equip students for graduate study in social work or related disciplines. Students who earn the BSW credential with a strong GPA can qualify for advanced standing admission to most CSWE-accredited Master of Social Work (MSW) programs. Advanced standing students are able to complete the MSW in approximately one year of study, which is the first step towards becoming a licensed clinical social worker (LCSW)- one of the most common paths to becoming a clinical mental health therapist.

Students build Programs of Emphasis that blend natural and social sciences with coursework in social work practice and social welfare policy. This interdisciplinary approach enables them to explore specific areas of interest—such as health care, criminal justice, families and children, or developmental disabilities—while gaining broad-based professional competence in helping individuals, families, groups, and communities to address human challenges.

A hallmark of the program is Juniata's Social Work Professional Semester. Partnering with diverse social service agencies—including those focused on medical care, criminal justice, substance use, developmental disabilities, aging, and family services—the program offers a senior-year internship. This immersive experience allows students to integrate and apply the knowledge, skills, and values learned in the classroom to real-world social work practice.

TEACHING

Since 1876, Juniata College has prepared individuals to be highly qualified, innovative educators and human service professionals. Currently, the Education Department works collaboratively with Pennsylvania's Department of Education (PDE) to offer teacher certification programs in early childhood education, special education, and secondary education (e.g., math, biology, and English).

Students who seek teacher certification must meet all of the requirements mandated by PDE and Juniata College's Education Department. All certification requirements for admission to, retention in, and completion of a certification program are outlined in the *Education Department Student Handbook*.

Although the Education Department's primary focus is on teacher preparation, department members also provide guidance and serve as advisors for individuals who create an individualized Program of Emphasis; others choose to complete a secondary emphasis in education and combine studies in education with programs in related fields (e.g., social work, health professions, and psychology).

International Opportunities

CENTER FOR INTERNATIONAL EDUCATION

Since the inception of its faculty-generated exchange programs in 1962, Juniata has championed internationalism by welcoming students from partner institutions, enabling financial aid and scholarships to apply to overseas study, encouraging faculty to recommend international experiences for their qualified students, and allowing courses taken overseas to be incorporated into any academic curriculum. Juniata promotes international competencies through study abroad for students in every Program of Emphasis. Programs of Emphasis with strong international components may be found throughout this catalog, particularly under International Studies, World Languages and Cultures, History, Political Science, and Accounting/Business/Economics. Juniata cultivates proficiency in a second language, offers s selection of English as a Second Language courses for international students, hosts exchange students from twelve partner institutions, and boasts degree-seeking international students and alumni from all over the globe.

The Center for International Education (CIE) is at the core of developing and nurturing Juniata's partnerships with secondary schools and universities abroad, and with infusing internationalism into campus life. The College's vibrant exchange programs facilitate international engagement

by offering a framework for Juniata students abroad and increasing the variety and number of international students on campus. Our programs also provide faculty members with opportunities to conduct visits and arrange overseas teaching opportunities and enable faculty members from international partner institutions to speak with classes, hold public lectures, share in joint research projects, and participate in informal interaction with students. An active International Education Committee advises the CIE, helps to coordinate international activities at Juniata, and provides direction for future growth. The CIE maintains membership in several national and international organizations, including the National Association of International Educators (NAFSA); The Forum on Education Abroad; Teachers of English to Speakers of Other Languages (TESOL), the Institute for International Education (IIE); the Association of International Education Administrators (AIEA); and the Pennsylvania Council for International Education (PaCIE).

INTERNATIONAL STUDENTS

Juniata welcomes students from around the world. The staff of the Center for International Education (CIE) provides support to students from around the world with visa issues, pre-arrival planning, orientation, academic advising, and adjustment to studying and living in the U.S. The CIE promotes academic and social programs incorporating language, international and intercultural subjects, and works closely with faculty members and departments to support the academic performance of international students. Requirements for admission and scholarship and financial aid information for international students can be found in the Admission section of this catalog.

INTERCULTURAL ACTIVITIES

Juniata supports a number of student organizations and co-curricular activities that facilitate intercultural learning. Students may choose to live in the Global Village, which brings together diverse students with interests in world languages and intercultural exploration into common residences for intentional living/learning communities. Student organizations are instrumental in the success of such activities as the Chinese New Year dinner, film series, lectures, and other intercultural learning activities on the campus.

STUDY ABROAD

Juniata encourages study abroad as an integral component of a liberal arts education. A variety of study abroad programs are available, including offerings for the full academic year, one semester, and short-term programs, many of which are led by Juniata professors. While yearlong language immersion programs in which a student continues to study in the Program of Emphasis are the optimal, study abroad experiences offered at Juniata provide students opportunities for personal and academic growth.

Juniata students can study abroad on every continent except Antarctica. Students from all academic departments are eligible for approved study abroad programs, following the guidance of their faculty advisors to maintain academic progress. In Juniata approved programs, credits

and grades will be indicated on the Juniata transcript. In all approved programs (except summer), Juniata financial aid is applicable, including grants-in-aid and scholarships. Students pay the regular Juniata tuition and fees for the semester and year programs, and all financial aid and scholarships apply (tuition benefit involves special tuition arrangements; students can obtain information from the Center for International Education. A number of scholarships are also available specifically for study abroad. Short-term programs have specific fee structures; these are provided with the program information.

In each program, Juniata students are accepted into each host institution on a full-time basis and are treated as regular members of the student body, attending classes, writing papers, taking exams, etc., side-by-side with their counterparts in the host institution. In most programs, classes are conducted in the language of the host country; in others, classes are in English. Supervision for the student is provided by the host institution.

Occasionally, a student may desire to enroll in a non-Juniata program. Such programs must be offered by accredited U.S. colleges or universities or involve direct enrollment in an approved university outside the U.S. In either case, credit earned may be transferable to Juniata under the usual policies and requirements for the acceptance of transfer credit. To enter these programs, students need prior approval of the Dean of the Center for International Education, the Registrar, and the Dean of Students. Juniata grants-in-aid are not transferable to programs sponsored by other institutions. Procedures for receiving aid such as outside loans and grants are specific; students should consult the Director of Financial Planning. Credits from non-Juniata programs are entered on the Juniata transcript as transfer credits; grades are not indicated.

Internships

An internship is a structured learning situation where a student applies concepts learned in the classroom to the realities of an on-the-job experience. The primary purpose of an internship is to provide an educationally sound platform for the development of the student's human, social, and management skills through a field-based activity. Interns receive practical training and experience in a variety of settings through cooperatively arranged placements. Interns are placed in preprofessional positions and work side-by-side with other employees or as "management trainees."

Credit versus Non-Credit Internships

Credit for internships is not given for work per se. Students apply theoretical concepts to the workplace and reassess ideas. Hence, academic credit is given for placing the preprofessional work experience in a conceptual and comparative context. The primary distinction between credit-Bearing and non-credit internships is the degree to which students are required to reflect on their experiences. This distinction is exhibited in the differences in the academic requirements, the degree of college supervision, the investment of college resources, and the student's payment for the receipt of credit.

With both credit-bearing and non-credit internships, the process is a shared responsibility of Career Development staff, faculty members, and students. For credit-bearing internships, the academic department is expected to provide primary guidance and approval, while for non-credit internships, Career Development staff takes the lead in advising and supporting students. In the case of credit-bearing internships, students may be compensated for internship work as long as the department and/or faculty sponsor believes that the college can maintain enough control of the internship experience to ensure its academic validity.

Credit-Bearing Internships

A student pursuing a credit-bearing internship must have a minimum 2.00 cumulative grade point average; have sophomore, junior, or senior status; and be in good academic standing. Individual departments may set additional requirements, such as higher GPA requirements. All faculty sponsors must have faculty status.

To apply for a credit-bearing internship, the student submits an application with the Office of Career Development, recruits a faculty sponsor from the department or program most closely related to the internship, and secures a position. Upon approval of an internship application, the student next submits the proposal to the Registrar for processing. Agency or placement contracts/agreements are developed as needed.

Course Designation and Evaluation

Students must register for two courses: an internship and an internship seminar. The seminar need not be a typical classroom experience but is intended to provide time for reflection, analysis, and feedback between the student and faculty sponsor. In both cases, the student and faculty sponsor negotiate the amount of credit to be awarded, which in turn determines the intensity of the experience. A semester internship carries a minimum of 2 credits (1 internship credit + 1 seminar credit) and a maximum of 15 credits (normally 9 + 6, except in cases where an outside accrediting agency requires otherwise, such as Social Work and Education in which the division of credits is decided by the appropriate department). Students can earn no more than 15 internship credits towards their graduation requirements during their time at Juniata. Faculty sponsors should note that a minimum of 12 credits, including the internship credits, must be maintained for students to be eligible to receive their financial aid awards for the semester.

The faculty sponsor awards standard letter grades for the internship and the internship seminar.

The **Internship** is typically designated as course 490 in the appropriate department and carries 1 to 9 credits. Credit is awarded in proportion to time spent on the job according to the following figures:

- 1 credit = 60 hours/semester (average 4 hours/week)
- 2 credits = 120 hours/semester (average 8 hours/week)

- 3 credits = 180 hours/semester (average 12 hours/week)
- 4 credits = 240 hours/semester (average 16 hours/week)
- 5 credits = 300 hours/semester (average 20 hours/week)
- 6 credits = 360 hours/semester (average 24 hours/week)
- 7 credits = 420 hours/semester (average 28 hours/week)
- 8 credits = 480 hours/semester (average 32 hours/week)
- 9 credits = 540 hours/semester (average 36 hours/week)

Grading is based on the following criteria: Successful completion of the required number of hours; contact with the faculty sponsor with one on-site visit preferred, but allowing alternative communication as appropriate substitutions where an on-site visit is not feasible; and a final evaluation conducted by the student, the placement supervisor, and the Juniata faculty sponsor.

The **Internship Seminar** is typically designated as course 495 in the same department for 1 to 6 credits. Credit for this course is awarded in proportion to time spent with the faculty sponsor as follows:

- 1 credits = 45 contact or study hours/semester (average 3 hrs/week)
- 2 credits = 90 contact or study hours/semester (average 6 hrs/week)
- 3 credits = 135 contact or study hours/semester (average 9 hrs/week)
- 4 credits = 180 contact or study hours/semester (average 12 hrs/week)
- 5 credits = 225 contact or study hours/semester (average 15 hrs/week)
- 6 credits = 270 contact or study hours/semester (average 18 hrs/week)

Grading for the seminar is based on: Contact with the faculty sponsor; an extensive project, paper, or program as arranged with and periodically reviewed by the faculty sponsor; completion of other seminar components as designed. A student presentation is strongly recommended for higher credit experiences.

The intern must fulfill any additional departmental requirements provided these requirements do not conflict with internship policies.

Non-credit Internships

Course Designation and Evaluation
The Career Development staff oversees non-credit interns, awarding grades of satisfactory ("S") or unsatisfactory ("U"). Evaluation is based on the following elements: completion of the learning agreement plan; contact with the Career Development staff; regular supervision and final evaluation by the placement supervisor; final evaluation by the intern; and a presentation upon completion of the internship experience.

Upon successful completion of all necessary requirements, a non-credit internship unit appears on the academic transcript as a non-credit-bearing course with a grade of Satisfactory.

Interns must fulfill any additional departmental requirements provided these requirements do not conflict with internship policies.

WASHINGTON CENTER

Under a cooperative arrangement with the Washington Center, Juniata students may participate in internships in Washington, D.C., in nearly every academic field. Internship placement assistance is available to help students secure meaningful, relevant placements. Interns work four days per week and attend seminars, political, and cultural events on the fifth day. Internship placements include public administration, congressional offices, lobbying associations, and public interest organizations like Common Cause and the Environmental Policies Center. Housing (excluding board) is provided. Participation requires approval by the Internship Committee.

Undergraduate Research

In preparation for graduate work, students are encouraged to engage in independent research projects as part of an independent study or internship or as a member of an upper-level research-oriented course. All students conducting research are encouraged to present their work in a public forum at the annual Juniata College Liberal Arts Symposium, as well as regional and national meetings in the relevant discipline. Funding for instruments, supplies, and travel is available through application to the Student Scholarly Endeavor committee.

Students with strong records of academic achievement are encouraged to consider competing for national fellowship awards such as the Rhodes, Fulbright, Goldwater, and Marshall Scholarships, and the Mellon Fellowship. Students with meritorious records are contacted by members of the scholarship committee and mentored through the application process.

Liberal Arts Symposium

The faculty agree to set aside a class day in the spring semester for students to present their research and artistic work to the campus community. No classes will be held on this day to encourage the full participation of faculty and students. The date will be selected, as far as possible, in such a way as to encourage students to apply and present at NCUR. Faculty agree to attend and to encourage students to participate in and attend these presentations of student work.

Community-Engaged Learning

COMMUNITY ENGAGEMENT

Community Engagement opportunities exist across at least 6 possible “Pathways” at Juniata: Direct Service, Community-Engaged-Learning and Research, Community Organizing and Activism, Philanthropy, Policy and Governance, and Social Entrepreneurship/Corporate Social Responsibility. Every student is required to have at least one community-engaged learning

experience through the “Local Engagement” requirement. Students engage with communities in many ways: individually, through classes or athletics, or through the many student organizations on campus. Throughout the year, Juniata hosts many campus-wide events including American Red Cross Blood Drives, Special Olympics, and the 9/11 and MLK National Days of Service. To recognize the efforts of those students who consistently make community engagement a part of their Juniata experience, the Office of Community Engagement coordinates a transcript notation honor for those who perform at least 120 hours of community-engagement over their college careers.

COMMUNITY WORK STUDY

The Community Work Study Program is designated for Federal Work Study-eligible students only and hires eligible students for positions at community agencies across Huntingdon County for part-time employment in the community. Students get paid while providing support for organizations, while also gaining valuable experience. These positions range from working with local youth through K-12 tutoring programs across Huntingdon County to working with local agencies and nonprofit organizations.

The Scholars Program

The Scholars Program is an opportunity for students to develop the skills and credentials to demonstrate intellectual leadership on campus and stand out as competitive applicants for prestigious national fellowships and awards. The Scholars Program provides students with mentorship and resources to create and carry out campus leadership projects; apply for external summer research positions, internships, and study abroad scholarships; and apply for competitive national fellowships that amplify their impact on the world. Juniata Scholars are invited to the program by nomination of the faculty or enrollment counselors.

HONOR SOCIETIES

The Juniata College Honor Society is a group of junior and senior students elected on the basis of outstanding academic achievement and leadership ability. Other honor and honorary societies on campus also recognize students for their accomplishments: Alpha Phi Sigma (criminal justice), Beta Beta Beta (biology), Lambda Pi Eta (speech communication), The Masque (theatre), Omicron Delta Kappa (leadership), Phi Alpha (social work), Phi Alpha Theta (history), Pi Lambda Theta (education), Pi Mu Epsilon (mathematics), Pi Sigma Alpha (politics), Psi Chi (psychology), Rho Epsilon Chapter of Gamma Sigma Epsilon (chemistry), Sigma Gamma Epsilon (geology), Sigma Iota Rho (international studies), Sigma Pi Sigma (physics), Sigma Tau Delta (English) and Tau Pi Phi (accounting, business and economics).

Academic Resources

Academic Advising

Advisors are an invaluable source of support for students. They help students determine their academic interests, strengths, and weaknesses, giving them sound advice as they develop their Programs of Emphasis and explore the liberal arts curriculum. Advisors also play a crucial role in helping students consider options in careers and post-graduate education. Advisors support students facing academic difficulties and refer students to other personnel who can further assist them.

Each degree-seeking undergraduate student will have two advisors, a Program of Emphasis (POE) advisor in their area of study and a General Advisor who is from a different department than the POE advisor. Students pursuing dual fields of study should select one advisor from each area. For exploratory students, advisors can help identify potential areas of interest. A student may also have other advisors filling specific roles. Advisors will be assigned as students enter the College; students are welcome to select new advisors as they progress through their academic careers.

Students must complete the Program of Emphasis Form two years prior to anticipated graduation. This form guides in planning coursework. Advisor-approved POEs are submitted to the Registrar for final approval. Failure to submit a POE form by the deadline posted by the Registrar may result in a hold for future registration.

Academic Support

Juniata students may receive assistance with academic coursework in several ways. Academic Coaches are available to assist students with guidance on topics such as study skills, organization and note taking, and exam preparation. The Peer Tutoring program also offers assistance for many cores academic content areas.

Career Development

The Career Development and Alumni Engagement team is committed to equipping students with the essential skills and hands-on experiences needed to succeed in today’s dynamic, global workforce.

Through individualized counseling, career assessment tools such as FOCUS2, and targeted workshops on career development and professionalism, the Career Development staff provides Juniata students with the guidance and resources necessary to plan and achieve their professional goals. The office maintains a comprehensive website, a curated digital library within Handshake featuring up-to-date career resources, employer information, and

graduate/professional school materials. Students have access to Handshake from the “applications” tab on the Arch and utilizing their Juniata Single Sign On (SSO) credentials.

Signature events include Juniata’s annual Career Day, which draws more than 120 employers to campus each spring, offering jobs, internships, and networking opportunities for students of all disciplines.

Career Development will assist students in finding and securing job and internship opportunities, providing guidance throughout the application process in partnership with Juniata faculty. Information on both credit-bearing and non-credit internships is available online and at the Career Development and Alumni Engagement Office in Founders Hall.

Student Accommodations

The College makes reasonable accommodations on an individualized and flexible basis for students with respect to disabilities, which do not impose an undue hardship on the College or fundamentally alter the learning environment. If a student believes he or she requires a reasonable accommodation or has a question regarding educational services, activities, programs, or facilities that are accessible to or usable by students with disabilities, please contact the Director of Student Accessibility Services who serves as the point person and advocate for students with disabilities and nuerodivergence.

Documentation

Students requesting reasonable accommodations with respect to disabilities must obtain and provide to the College current (generally within three years prior to enrollment) documentation of their disability before requesting an academic adjustment or services. This documentation must support both that a student has a disability as well as the necessity of the requested academic adjustment or services to provide access. The primary purpose of this documentation is to determine a student's eligibility for accommodation and, if eligible, to help the College work interactively with a student to provide appropriate services. The College is not required, however, to provide accommodations that would result in a fundamental alteration to the nature of the program in which the student is enrolled or seeks to be enrolled, would create an undue financial burden on the College, or which would pose a threat to safety and security. General documentation requirements include, but are not limited to:

- Documentation must be typed or printed, dated, signed and legible with the name, title, and professional credentials of the evaluator on official letterhead. In general, the documentation should:
    - Be provided by a licensed or otherwise properly credentialed professional/medical specialist who has no personal relationship (i.e., family member or former schoolteacher or school counselor) with the individual but who is knowledgeable about the individual’s disability and/or condition.

- Include both diagnostic information and an explanation of the current functional limitations of the condition. It should be thorough enough to indicate whether or not a major life activity is “substantially limited”, that is, it should explain the extent, duration, and impact of the condition.
- Be detailed enough to support the accommodations that are being requested. Accommodations are determined by assessing the impact of the person’s disability on academic or work performance.
- In most cases, it should be relatively recent; a suggested guideline is less than 3 years old. Documentation of conditions that are permanent or non-varying (e.g., a sensory disability) may not need to be as recent, but some chronic and/or changing conditions require even more current information to provide an accurate picture of functioning.
- For a variable or progressive condition, include the degree and range of functioning.
- Address the impact of medication or other treatments on major life activities.

The above criteria are general guidelines only; the type of documentation will vary according to the disability. For students with learning differences, it is preferable that the student provide a full and recent psycho-educational evaluation. In addition, in some instances, a student may be requested to provide updated or augmented documentation in order to be reviewed more fully before being considered for services.

It is possible that in reviewing a student's specific accommodation request or the recommendations of an evaluator, the College may find that while the recommendation is clinically supported, it is not the most appropriate accommodation given the requirements of a particular student's academic program. In addition, the College may also propose accommodations that would be appropriate and useful to the student, but which neither the student nor the evaluator have requested. The College appreciates that student disability records contain personal and confidential information. Such documentation is maintained in a confidential file in the Office of Student Accessibility Services and is considered part of a student's education record and will only be disclosed with a student's permission or as permitted by law (e.g., in the event of a health or safety risk). However, at times, in order to evaluate and/or provide requested or recommended services and accommodations, it may be necessary for the College to disclose disability information provided by a student or a student's healthcare provider to appropriate College personnel participating in the accommodation process and who have a legitimate need to know more and review the file.

If documentation provided by a student does not support the existence of a disability or the need for an accommodation, the student will be advised and will be provided an opportunity to supplement the initial documentation with further information from a physician, psychologist, or other appropriate specialist. In the event a student's accommodation request is not approved, the student may appeal that decision by utilizing the appeal/grievance process found below.

Supporting Students with Disabilities

In its commitment to ensuring that no otherwise qualified student with a disability is subjected to unlawful discrimination in the context of their educational experience, the College makes certain that students with disabilities are provided equal access to educational and career development programs and/or student activities. Consequently, as noted above, the College will make, on behalf of qualified students with learning and physical disabilities of which the College is aware, reasonable accommodations that do not impose undue hardships on the College or fundamental alterations to program. Students and their families are strongly encouraged to disclose and discuss possible accommodations prior to the start of the semester.

If a student believes they require a reasonable accommodation or has a question regarding educational services, activities, programs, or facilities that are accessible to or usable by students with disabilities, please contact the Director of Student Accessibility Services, who has responsibility for students with learning challenges. All information associated with a disclosure of this nature is confidential, and the College will communicate this information to others only on a need-to-know basis.

Appeal/Grievance Process

Scope and Application: This appeal/grievance process applies to any student allegedly aggrieved by a non-approval (in whole or in part) of their request for an accommodation/academic adjustment under the College's Policy Regarding Students with Disabilities or who otherwise has an unresolved complaint regarding their disability. The College commits that no retaliation will occur at any stage of this process.

Initial Time Period for Filing an Appeal/Grievance: A student alleging a disability and wishing to file an appeal/grievance hereunder, must initiate the procedure described below within thirty (30) calendar days of when the student knew or should have known of the action of which the student complains or is otherwise aggrieved by, including a non-approval (in whole or in part) of a request for accommodation/academic adjustment.

(A) The student or, any person(s) acting on behalf of the student, may file an appeal/grievance with the Office of Student Accessibility Services. An academic counselor (or designee from the Office of Student Accessibility Services) will discuss the student's complaint and attempt to resolve or adjust the dispute on an informal basis. The student may present any facts or circumstances they deem relevant to the complaint/dispute. The academic counselor may investigate the matter and gather any relevant facts and circumstances, including conducting interviews. The academic counselor shall render a determination within twenty (20) calendar days after being assigned to handle the student's appeal/grievance. Within seven (7) calendar days from the date of the determination by the academic counselor that the complaint/dispute could not be resolved, the student (or the person acting on their behalf) must submit a written request for a further review by the Dean of Students to the Office of Student Accessibility Services and must document the student's attempt to first resolve the appeal/grievance with the academic counselor. The written request must explain the nature of the student's complaint/dispute and/or the accommodation/adjustment sought.

(B) The Dean of Students shall review all matters relating to the complaint/dispute as presented to the Office of Student Accessibility Services and may solicit additional facts and evidence as the Dean may deem necessary. The student may present any further facts or evidence they deem relevant. The Dean of Students shall complete the review and render a decision within twenty (20) calendar days after the appeal/grievance is submitted to the Dean of Students. If, after the Dean of Students has had an opportunity to render their decision, the student remains unsatisfied with the resolution of the appeal/grievance, the student, or person(s) acting on behalf of the student, may submit an appeal/grievance in writing, within seven (7) calendar days from the date of the decision by the Dean of Students, to the Provost. If no written request is submitted within the seven-day period, the decision of the Dean of Students shall be final.

(C) Upon the submission of the student's written request for a review of their appeal/grievance, the Provost will consider all facts and circumstances, including the investigatory file as developed by the Office of Student Accessibility Services and any medical evidence presented. The Provost may also interview the student or such other witnesses as may be necessary. If, upon such inquiry, the Provost determines that a proper review of the matter was conducted, the decision of the Dean of Students shall be confirmed. The Provost may also amend, alter or revise the decision and, therefore, the Provost is responsible for the final decision. The Provost will render a decision within thirty (30) calendar days after the appeal/grievance has been submitted to the Provost as described above.

Peer Tutoring Program

Program Peer Tutoring is available for core academic content areas. Walk-in Tutoring sessions are scheduled for students to meet with a tutor individually or in small groups. In select courses, tutoring is offered in the form of group study sessions. Students/tutees understand that tutoring is a supplement to faculty office hours and class attendance–it is not intended to replace a student's individual class preparation and key academic responsibilities.

Student Life

Student Life

Athletics and Recreation

The commitment of the Juniata College Athletic Department is explicitly linked to the educational mission of the institution. Juniata athletics emphasizes fair play and sportsmanship co-existing with a high degree of competitiveness in all varsity programs. Such competitiveness applies as well to the academic efforts of Juniata student-athletes. Care is taken to assure the overall health and well-being of students in and outside of the training and competitive arenas. The dynamics of equitable and fair treatment of men and women within Juniata athletics is thoroughly examined and pursued.

The College promotes recreation, physical activity, and athletic programs for all students. Intercollegiate varsity sports offered for men: baseball, basketball, cross country, football, golf, lacrosse, swimming, soccer, tennis, track (indoor and outdoor), volleyball, and wrestling; for women: basketball, cross country, field hockey, golf, lacrosse, soccer, softball, swimming, tennis, track (indoor and outdoor), volleyball, and wrestling. In addition, clubs compete in a variety of sports largely determined by the interest of the student body. Active clubs include, or have included: esports, cheerleading, collegiate clay shooting, men's and women's rugby, ultimate frisbee, and equestrian. A variety of recreational clubs ranging from skiing and snowboarding to dance and the martial arts are also available.

Intramural programs include or have included: basketball, indoor soccer, volleyball, among others.

Juniata is a Division III member of the NCAA, the Eastern Collegiate Athletics Conference (ECAC) and the Landmark Conference.

The Kennedy Sports + Recreation Center includes a 25-meter natatorium, a fully equipped 5,500 sq. ft. Fitness Center, two separate gymnasiums for volleyball and basketball, and an indoor walking track. Outdoor facilities feature playing fields for football, soccer, lacrosse, field hockey, baseball and softball as well as tennis courts and an eight-lane track.

Beyond the facilities explicitly provided by the College, the Huntingdon area is rich with opportunities for fishing, hunting, hiking, biking, running, boating, canoeing, rafting, swimming, camping, downhill and cross-country skiing and golf.

Campus Ministry

Although Juniata is chartered as an independent college, it was founded by members of the Church of the Brethren and continues to value the importance of a spiritual dimension as a part of individual growth. Through the campus ministry office, located in the college's Oller Center, students are encouraged to integrate their faith and vocational direction and offered opportunities to become involved in meaningful religious activities. Campus worship opportunities include weekly Catholic Mass and regular interdenominational services. In addition to worship, there are regular opportunities for students to engage in study of scripture, community service, prayer, observation of Holy days, interfaith dialogue, and informal fellowship. There are also several active religious and faith focused clubs that support the spiritual growth of our students. Juniata's religious programs are guided by the College Chaplains who serve concurrently as pastors of the Stone Church of the Brethren which is long associated with and adjacent to the College, the Coordinator of Campus Ministries, Campus Ministry Affiliates representing local congregations or faith communities, and a variety of student leaders. The Juniata student body reflects a diversity of religious faiths, and the local community provides worship opportunities for Jewish, Protestant, Eastern Orthodox, and Roman Catholic students. The Stone Church of the Brethren, a prayer labyrinth outside the Statton Learning Commons, and an interfaith meditation room in Oller Center are available for private meditation and prayer.

The Campus Ministry Office supports all Juniata community members regardless of faith or non-faith. All are welcome to the table and in the space provided.

Dining Services

Baker Refectory, located on the first floor of Ellis Hall, is the main dining hall choice for students on a College meal plan. All residential students are required to select from the meal plan options that correspond to year of enrollment or housing. The dining room is an "all-you-care-to-eat" facility open throughout the day in accordance with the College calendar. Students may select from assorted made-from-scratch entrees, including vegetarian and vegan selections at each meal, Clean Plate which prepares items to specifications in an allergen free service station, salad, grill, deli, and pizza lines, among others.

Jitters, BAC On the Go! Café, and the **Fisher Café in Statton Learning Commons** are available for made-to-order and à la carte items, beverages, or a quick snack between classes.

Monies from a spending account (called DCB) associated with all of the meal plan options may be used by students at any of the above dining facilities. Students are required to bring their ID cards with them to all meals; admittance will not be granted to the Baker Refectory without an ID card. The DCB balance at the end of the fall semester carries over to the spring semester; the DCB balance associated with meal plans that is not used by the end of the academic year is forfeited. Additional DCB dollars may be purchased throughout the semester.

Firearms and related items

Illegal and/or dangerous weapons, including but not limited to BB / air / gel / paintball / pellet guns, sling shots, and pneumatic weapons that resemble a real firearm, are not permitted on campus. Violators will be subject to disciplinary action and arrested if appropriate. Legal and approved firearms used for sport, target shooting, or hunting, ammunition, archery equipment, knives and other edged - weapons with blades exceeding three inches, and/or devices that can be considered a danger to the campus community must be registered and stored in the Public Safety Office. Firearms that are being stored at the Raystown Field Station must be registered with college staff designee and kept in the gun safe on site.

Handguns and assault weapon platforms are prohibited from being registered.

Students must complete an application/registration for each firearm.

All firearms being transported to or from campus must be secured and placed within an approved firearms carrying case.

Registered firearms and/or dangerous weapons are not permitted in administrative/ academic buildings or college residence halls. Failure to comply with this regulation may result in expulsion from the college and/or arrest.

Public Safety or college staff designee reserves the right to not sign out a firearm to a student if he/she appears to be in an altered mental state, under the Influence, or the request is not consistent with traditional hunting times.

With proper identification and registration card, students may sign-out their registered items by contacting the Public Safety Office or college staff designee.

Health and Wellbeing

Holistic wellbeing is important at Juniata. Students are encouraged to optimize their physical and emotional health. Although prevention is the primary focus of our efforts, intervention, response and care is also provided through the following services:

Medical Services:

Broad Top Health and Wellness provides health services to Juniata College students at the Sill Business Center located at 419 14th St.

As Juniata's partner, Broad Top provides extended access to qualified doctors and nurses, telehealth options for connecting students with specialists across the region, a 24-hour emergency care line, language interpretation services, and an exceptional standard of compassion and skilled care.

The center is capably staffed with three staff: a doctor or advanced practice provider (physician assistant or nurse practitioner), a nurse, and a receptionist. A behavioral health counselor works

part-time in the center. Treatment is provided for minor injuries and ailments and routine care of chronic illnesses for full-time students. For comprehensive and specialized care, students are referred to the local hospital or to other medical facilities in the area.

Broad Top bills student insurance for health-related visits and services as permissible, but Juniata and Broad Top are dedicated to ensuring care regardless of an individual's financial capacity. If health care costs pose a hindrance or obstacle, ensuring access will always take precedence. Broad Top Health and Wellness is a federally qualified health center, which is a nonprofit health center that is federally funded and committed to delivering medical care regardless of a patient's financial means. Juniata College shares this commitment to comprehensive care for all.

All full-time Juniata students are required to provide proof of insurance. If proof is not provided, full-time students will be charged a premium and enrolled in a student accident insurance program.

Learn more about healthcare services on our frequently asked questions page: https://www.juniata.edu/offices/health/health-services-faq.php.

Counseling Services:

The Glaeser Counseling Center provides personal counseling for all students, and sessions are arranged under the care of clinicians as client needs and progress dictate. These services are provided by licensed therapists. All services are confidential and are not included on the student record. Counseling services also include assessments, screenings, prevention programming, appropriate referrals, workshops/presentations, support groups, drug and alcohol education programs, and when appropriate, referral to the center's consulting psychiatrist.

Identification Cards

The College ID card, or "Gold Card", must be presented for admission to meals and to many of the activities at the College, including home athletic events and various college sponsored programs. It also is used for checking out materials at the Statton Learning Commons. Used primarily for identification, the card should be carried at all times. Identification cards are non-transferable. If lost or stolen, the ID card can be replaced by request at The Public Safety Office. A fee of $25.00 is charged for replacement.

Failure to show an ID card in response to a request by a college official is a violation of the Student Code of Conduct.

Inbound Retreats

Inbound Retreats help incoming Juniata students become aware of and engaged in our academic and co-curricular community. New students arrive on campus early and participate in retreat options designed to provide a smooth transition into college.

Each retreat is led by Peer Leaders who are returning Juniata College students.

Goals:

Inbound is a social, transitional program for first-year students. Upon completion of the Inbound program through small and large group activities, students will:

- Establish new social relationships;
- Become acclimated to the campus and surrounding community;
- Experience less anxiety about starting college;
- Become acclimated to collegiate living;
- Learn ways in which to become engaged and involved on campus;
- Become more confident with oneself;
- Gain knowledge about collegiate interests; and
- Meet faculty, staff and/or community members which serve as additional resources to students.

To learn more: https://www.juniata.edu/offices/dean-of-students/inbound/

Juniata Activities Board (JAB)

JAB plans and executes a broad range of social, cultural, educational, and recreational programs for Juniata College students and the Juniata community. Through various committees, JAB coordinates many of Juniata's traditions and late-night activities. JAB committees typically include Welcome Week and Finals Blowout, Mountain Day, Tenting and Madrigal, Festifall and Springfest, marketing, and JAB special events.

Mail and Postal Services

The College receives US Postal mail and package deliveries through the Juniata Post Office, which is located on the ground floor of Ellis Hall. Students receive one assigned post office box for their entire stay at Juniata. Students should use their post office box number as part of their Juniata address. Stamps are available at the post office and parcels can be mailed there during open hours.

Orientation

The Summer Orientation program consists of parallel programs for new students and their families and supporters. The orientation program includes consultation on class registration, discussions on campus community and residential living, and sessions on various other adjustment concerns. Families and supporters meet in groups with college administrators and faculty to share concerns, discuss services available to both students and parents, and participate in question-and-answer sessions. Students participate in a variety of informational

and social activities designed to help them become more familiar with college life and the unique traditions and opportunities at Juniata.

Prior to the first day of classes, new students consult with advisors, confirm their course registration, meet with Residential Life Staff, and participate in planned college activities to inaugurate the new academic year.

The College also provides special orientation programs specifically designed for the following distinct student groups: dual enrolled high school students, and international students.

Parking and Vehicle Registration

All students and employees who bring motor vehicles to the college area, whether to the campus itself or not, must register their cars, motorcycles, motor scooters or motor bikes with Juniata College Public Safety. The online vehicle registration form can be accessed by following the link on the home page of the Public Safety website. Upon approval of the registration form, a display sticker is issued and should be placed on the left side of the rear bumper. Failure to register a vehicle by a student results in a fine. The registration decal is valid for the entire academic year and is non-transferable.

For additional information, go here: https://www.juniata.edu/offices/security/policies/parking-traffic-regulations.php

FEES FOR VEHICLE REGISTRATION

The vehicle registration fee is: $250.00.

The vehicle registration is billed to the student's bursar account during the processing procedure.

PARKING

A valid and properly displayed vehicle registration permit entitles a student to park in student parking areas only, parking in unauthorized areas subjects students to a fine. Limited e-charging stations are available for students. Students should register and receive a charging card from the Office of Campus and Residential Life after registering their vehicle with the Office of Public Safety.

TRAFFIC REGULATIONS

In addition to the rules and regulations for operating a motor vehicle in the Commonwealth of Pennsylvania, there are several regulations peculiar to the Juniata campus:

1. Pedestrians shall at all times have the right of way.
2. All vehicles shall operate at a safe speed.
3. All vehicles shall comply with all traffic devices, stop signs, etc.
4. No vehicles, including two-wheel motorized vehicles shall be operated or travel over, or park on, any grass area, concrete walkway.

5. Failure to comply with this regulation will result in a fine and may include loss of on-campus driving privileges.
6. Improper operation of any motor vehicle within the College jurisdiction will result in a citation or revoking of motor vehicle privileges on campus.

PUBLIC SAFETY OFFICE

The Public Safety Office is committed to providing a safe and secure environment as essential to the Juniata College community. The Public Safety Office focuses on the protection of college assets, but the primary goal is to assure a safe, secure, and comfortable living environment which promotes learning and personal development. Respect, consideration, and fairness to others are paramount in our daily operations.

For additional information, go here: https://www.juniata.edu/offices/security/

Residential Life

Juniata is a residential campus and, as such, residence hall experiences are designed to complement the formal instructional program. Guidelines for residence hall living are provided in detail through the campus computer network, EagleNet, and in the student handbook, *The Pathfinder*.

With a limited number of exceptions, students are expected to live in college-owned facilities.

RESIDENCE HALL STAFF

Juniata seeks to provide the best possible living experience in the residence halls. This begins with qualified, caring, and well-trained staff. Staff members in each building are carefully selected, and trained, and are willing to help students have a successful campus living experience. One of the first people students meet on check-in day is the Resident Assistant, better known as the RA. Resident Assistants are assigned to each residence hall floor to help with the adjustment to community life and are instrumental in planning activities to help students become acquainted with their living environment. In addition, RAs are available throughout the year to assist with academic, personal, and community living concerns. Resident Assistants are specially trained upper-division students who are able to answer many questions about Juniata and the residence halls. Each residence hall also has a Residential Life Coordinator (RLC) who is a live-in professional staff member who provides support and direction for a building's community and supports the RAs residing there. They also supervise the hall staff, coordinate programs and activities, and work with the student conduct process. RLCs can answer many questions about policies and procedures and the campus in general.

CAMPUS AND RESIDENCE LIFE PROGRAMS

The campus and residential life staff offers a wide variety of activities in which students can participate. These programs are planned and organized by professional staff, RAs, members of the Juniata Activities Board and student leaders in RSOs and across campus. Everyone is encouraged to make their interests known, to become actively involved in planning events, and

to participate. The staff assists on floors to develop programs that enhance a sense of community. These programs have a social focus and support students' personal development, community engagement, authentic leadership, and/or becoming a global citizen.

LIVING OPTIONS

Juniata's residence halls are smoke-free living environments.

Eco House: The Eco House encourages students to develop and promote a sustainable and 'green' lifestyle. Living in this coed house provides an opportunity to live and work with other students who are committed to the campus community's goal of becoming more sustainable.

Global Village: the Global Village is a distinct globally themed living and learning community designed to provide opportunities for intensive, in-depth cultural interaction and community development. The GV welcomes language learners and non-English speakers; non-native students who have lived, traveled extensively, or studied abroad; and students enrolled in language courses.

Lavender Floor: the Lavender Floor welcomes students interested in understanding and supporting LGBTQIA+ people and issues.

LEGACIES House: welcomes students interested in exploring and understanding the legacy and culture of BIPOC people.

Gender inclusive: A number of designated communities are available for students who choose to live in a community inclusive of all gender identities.

Female aligned: Cloister Hall is a residence hall for female identified students. Floors are available to upper-division and first-year students.

Suites: East Houses apartment style living, housing 8 students. There are 4 bedrooms, a common room and bathroom. Each room is air conditioned.

STUDENT GOVERNMENT

Elected by students, members of Student Government represent the interests and the concerns of the student body in a variety of ways. Student Government officers serve as student representatives on faculty and trustee committees and serve as the governing body for the 80+ Registered Student Organizations.

REGISTERED STUDENT ORGANIZATIONS (RSO)

Juniata College offers students over 80+ Registered Student Organizations (RSO), which represent an array of student interests. Students can sign-up for RSOs at either our Fall involvement fair (Lobsterfest) or learn about upcoming RSO meetings/events through the Daily Announcements. If students would like to contact a specific organization, a current list of active RSOs, officers and advisors is located online.

Student Conduct

ALCOHOL

The College maintains that the use of alcohol and other drugs is not necessary for the success of social occasions.

Although students are considered adults for most phases of community life, Pennsylvania State Law prohibits the purchase, possession, or consumption of alcoholic beverages by persons under 21 years of age. Persons who furnish alcoholic beverages to those under 21 are subject to civil liability and criminal prosecution. Local ordinances and state laws also prohibit open containers of alcoholic beverages in public areas and in vehicles. College policy permits only students 21 years of age and older to possess or consume alcoholic beverages on campus.

DRUGS

Juniata considers the possession and/or use of illegal or dangerous drugs a serious violation of College policy. Disciplinary action for involvement could lead to separation from the College. The College will assist the efforts of law enforcement officials who are investigating the involvement of persons with illegal or dangerous drugs.

Since the use of drugs, including alcohol, may be associated with medical and psychological problems, students may be referred, or refer themselves, to the counseling and medical resources of the College and/or the local community.

SEXUAL HARASSMENT

It is Juniata policy to promote and maintain a campus environment free of all forms of discrimination, intimidation, and exploitation, including sexual harassment. The use of one's institutional position or authority to seek or solicit unwanted sexual relations with a member of the Juniata community is incompatible with the mutual trust and respect among members of the College community fundamental to the mission of Juniata. If a student has experienced sexual harassment by a peer or if a supervisor, professor or coach has used their position to engage in harassment or unwanted sexual relations, that student should report the matter to the Title IX Coordinator, Dean of Students, or Public Safety. Students may also explore confidential reporting and support through the Safe Place to Talk (SPoT), Glaeser Counseling Services, or College Chaplains. The Title IX Coordinator addresses reports of student-student incidents, while the Director of Human Resources/Deputy TIX Coordinator and Provost Office addresses reports of instances involving staff and faculty. A copy of the sexual harassment policy is distributed annually via electronic communication to all students.

The Pathfinder (Student Handbook) further outlines these policies and pathways to success. It is available at this website: https://www.juniata.edu/offices/dean-of-students/pathfinder.

Admissions and Cost

Undergraduate

Guidelines for Entering Freshmen

The Admission Office encourages students to apply to Juniata if they demonstrate the proper desire, motivation, and maturity needed to benefit from a four-year private college experience. Such qualities are evaluated through the application requirements listed below. The Admission Office places the most emphasis on a student's high school transcript. In addition, standardized tests (when submitted), activities, community involvement, and all the things that make up the student's life are important in the review. Juniata seeks a broad student population base that includes a wide geographic and cultural representation from a variety of social and economic backgrounds.

The College reserves the right to determine which applicants will be admitted. The selection of candidates is made without regard to race, sex, religion, creed, geographic location, national origin, and or handicap.

APPLICATION AND INFORMATION

Students may apply to Juniata using the Common Application or the Juniata Application beginning August 1 of their senior year. A complete secondary school transcript indicating courses and grades (including senior year courses and grades to date) must be sent from the applicant's guidance office. Other required application materials include: one letter of recommendation, the admission essay (included in the application) and/or SAT-R and/or ACT scores (Juniata is Test Optional).

Candidates for freshman admission can choose from four application options - Early Decision, Early Action, Early Action II, and Regular Decision:

- **Early Decision** – **Application Deadline November 15**. The Early Decision option is available for those students who know that **Juniata is their number one choice**. Early Decision is a binding agreement; applicants agree to apply ED *only* to Juniata and to enroll if offered admission. ED students receive admission notification by December 15th. Accepted ED students will receive financial aid notification by late January. A non-refundable $400 deposit is required by January 15.

  Please refer to the Early Decision Information section of the Common App or Juniata website when deciding whether to apply as an ED candidate.

- **Early Action – The Early Action application deadline is December 1** - admission decisions are released by February 15. Applying Early Action is ideal for optimum scholarship consideration. The EA option is a non-binding agreement. Students accepted as an Early Action candidate must submit a non- refundable $400 deposit by May 1 to reserve a space in the entering class.

- **Early Action II - Application Deadline Jan. 15** - admission decisions are released by February 15. This is for students who are ready to apply before the regular decision deadline. The EA II option is a non-binding agreement. Students accepted as an Early Action candidate must submit a non- refundable $400 deposit by May 1 to reserve a space in the entering class.

- **Regular Decision** – **Application Deadline March 15*.** Regular Decision Candidates are encouraged to apply in the fall. Decisions are released based on application round, and date of submission. Decisions will be released after most Early Decision and Early Action decisions are processed. No preference is given to Early Action vs Regular Decision in determining decisions. Please note, some competitive scholarships have an early deadline, though our standard merit-scholarships do not. Students accepted as a Regular Decision candidate must submit a non- refundable $400 deposit by May 1 to reserve a space in the entering class.

Note: Students who wish to be considered for all additional competitive scholarships should have their application submitted no later than December 1. Merit scholarships are not determined based on date of submission, and admission preference is not given to those who apply earlier in the application period.

* Please call the Enrollment Center (814- 641-3420) to inquire whether applications are still being accepted beyond any application deadline.

CONTENTS OF APPLICATION

An application for admission consists of the components listed below.

Credentials that are reviewed include: high school academic record, SAT or ACT test results (when submitted), completed application form including evidence of extracurricular involvement, recommendation letter, and a personal essay.

High School Transcript. A secondary school program including at least 16 college preparatory courses from an approved public, private, or parochial school must be completed or anticipated. These courses must include a minimum of four years of academic English, and three years each of science courses, social studies, and mathematics (Algebra I, Algebra II, and Geometry).

A complete secondary school transcript must be sent from the applicant’s guidance office, noting all courses taken and grades received from the freshman year through the junior year. A listing of courses to be taken in the senior year should accompany this transcript and grades

from the first marking period and/or the first semester are recommended to be sent when they become available. Upon graduation, students must submit a final secondary school transcript noting graduation date and guidance counselor signature or raised seal.

Standardized Test Results. Results of the Scholastic Assessment Tests (SAT- R) taken in the junior and/or senior year are required unless the student chooses to participate in Juniata's Optional Standardized Test Program. The American College Test (ACT), taken in either the junior or senior year, may be substituted for the SAT-R. Applicants whose native language is not English also must provide results of a Test of English as a Foreign Language (TOEFL) or scores from an approved English language program. International applicants who have studied entirely in an English-speaking high school are required to submit an SAT/ACT score.

All other international students are not required to submit SAT or ACT scores but should still submit TOEFL (or similar) results. SAT-II: Subject Tests are not required but may be submitted for admission consideration. Contact the Admissions Office for more information.

Application Form. Juniata uses the Common Application and the Juniata Application. Application forms may be submitted at www.commonapp.org or https://www.juniata.edu/admission/apply/. Only one application is required. The application requires a listing of extracurricular activities in both school and community, guidance counselor or teacher letter of recommendation, and an essay which answers one of the essay questions listed in the application for admission. The applicant should complete the form and submit it online.

CAMPUS VISITS

Although not required for admission, the College strongly recommends that each prospective student make a visit to campus. A campus visit serves as an opportunity to learn more about the College, its students, and faculty, and is a great way for the admission team to meet interested students and answer questions. During the academic year, the enrollment center has a variety of visit options. Students are encouraged to visit https://www.juniata.edu/admission/campus-visit/ to select the appropriate visit program to serve their information needs. The Enrollment Center is open for visit arrivals from 9 a.m. to 3 p.m. Mondays through Fridays from September through April, and for selected Saturdays from 11 a.m. to 12 p.m. Appointments for the summer months can be scheduled between 9 a.m. to 2 p.m. weekdays. Please contact the Admissions Office at 814-641-3428 for more information or to schedule an appointment.

GUIDELINES FOR TRANSFER STUDENTS

Applicants are considered transfer students if they have graduated from an approved secondary school program and completed the equivalent of one full-time semester of coursework enrolled at a regionally accredited community college, junior college, or four-year institution. Students' work will be evaluated on a case-by-case basis. Notification of a transfer admission decision is given within one month upon receipt of all credentials.

Application deadlines for transfer students are August 1 for fall semester entry and December 1 for spring semester entry, though earlier submission is highly encouraged.

CONTENTS OF TRANSFER APPLICATION

An application for transfer admission consists of the following components:

Application. Transfer students can apply to Juniata via the Common Application for Transfer or via our institutional application. The application requires a transfer statement explaining why the student wishes to transfer. The applicant should complete the application and submit online at apply.transfer.commonapp.org or access the institutional application at juniata.edu/admission/apply/apply-transfer.php. Fall Entry Application Deadline is June 15. Spring Entry Application Deadline is December 15.

High School Transcripts. A final, official high school transcript is required for applicants transferring fewer than 24 collegiate credits from their previous institution(s). This transcript must include final grades and date of graduation and be sent directly from the high school to the Juniata admission office. Digital copies are strongly preferred, sent to applications@juniata.edu.

College Transcripts. Transfer applicants must also submit an official transcript from each college previously attended. The transcript(s) must be sent directly to Juniata by the former institution(s).

Transfer College Report. The Transfer College Report is a required document before matriculation to Juniata College. It is completed by both the applicant AND a college official from their previous institution who has access to their academic and disciplinary records (e.g. Registrar, Dean of Students, Academic Advisor). The college official must return the finished report directly to transfercredits@juniata.edu.

FINANCIAL AID

All transfer students admitted to Juniata are eligible for a merit scholarship. All students are strongly encouraged to submit their Free Application for Federal Student Aid (FAFSA) for consideration for both federal and institutional need-based financial aid.

Fall Term Entry: Students should complete the FAFSA application for the next academic year, making sure to include Juniata College (FAFSA Code: 003279) on their College List. The FAFSA application and other helpful information are available at studentaid.gov.

Spring Term Entry: Transfer students should submit/update their FAFSA application for the ongoing/current academic year to include Juniata College (FAFSA Code: 003279) on their College List, and then (re)submit the FAFSA application.

For further information, contact the Financial Aid Office at financialplanning@juniata.edu or 814-641-3142.

TRANSFER CREDIT

Credit accepted for transfer at Juniata fulfills the following criteria:

- Awarded from an accredited institution
- Received a final grade of C- or above
- Course code is listed at the 100-level or above
- Is not strictly technical or remedial in nature
- Is not physical education coursework nor credit for athletic participation

Special circumstances may affect the transferability of an individual student record. These cases will be handled on an individual basis, and decisions will be based on Juniata's academic policy.

Students will have their work evaluated on a course-by-course basis to determine eligibility for direct course equivalence. Coursework accepted in transfer may be used to meet both liberal arts graduation requirements and Program of Emphasis requirements. Our catalog of courses previously accepted for transfer credit at Juniata can be found at juniata.edu/admission/student-info/transferring-credits.php.

After applying to Juniata, a preliminary transfer credit summary will be completed upon receipt of official transcripts. The student’s official transfer credit evaluation report will be completed by the Office of the Registrar after the student enrolls at Juniata.

The college has a formal transfer agreement with Penn Highlands Community College.

Articulation agreements are in place to facilitate the transfer of credit from one institution to another.

Other Admissions Programs

DEFERRED ADMISSION

Students may be permitted to defer their Enrollment to a time other than the fall semester after graduation from secondary school on a case-by-case basis. Application procedures and requirements are the same as for all other applicants. Candidates should contact the admission office to be considered. Students may defer enrollment for up to one year once their non-refundable $400 deposit has been received.

SPRING SEMESTER ADMISSION

Application procedures and requirements are the same as fall admission. The Spring semester application deadline is December 1, though earlier submission is encouraged. Interested persons may contact the Enrollment Center for further information.

EARLY ADMISSION

Juniata encourages applications from students who demonstrate the aptitude, desire, and maturity to begin college level work prior to the completion of their secondary school program. Students may consider enrolling at Juniata the last year or the last semester of their senior year. A formal application for admission must be completed. In addition, students must: 1) Have an admission interview on campus; 2) Provide a written recommendation from their guidance counselor supporting their application for early admission and indicating they will receive a diploma either at the end of their junior year or after they have successfully completed one year of college level work, which includes college level English; and 3) Provide a written statement from their parents indicating approval of early admission. Applicants are expected to meet all other admission requirements.

HOME-SCHOOLED STUDENTS

Juniata welcomes applications from students who are home-schooled and have been approved by their local school district. Students must submit an application for admission and include an application essay, letter of recommendation and annual evaluation(s) from a qualified evaluator. Students are also encouraged to interview and submit additional information to support their application. Please contact the Enrollment Center for further information.

INTERNATIONAL STUDENTS

International students are strongly encouraged to submit applications. The procedures for admission are the same as for other freshman or transfer applicants. In addition, for applicants whose native language is not English, a TOEFL score of 79 Internet-based (or equivalent IELTS, Duolingo, or Pearson PTE Academic) or higher is required for unconditional admission to Juniata.

Minimum section scores are also required. (https://www.juniata.edu/academics/departments/international/english-for-academic-purposes/courses.php)

All students who submit a TOEFL score, however, may still be tested upon arrival to ensure appropriate course placement, including ESL courses if you have submitted a score lower than 79 iBT. Students who have studied in the US or have been taught in a curriculum where the language of instruction is English may be eligible for a TOEFL waiver. Please contact the admission office for details.

A complete set of original or notarized educational credentials with certified English translations is also necessary for international applicants and is required before eligibility for admission can be determined. In addition, an affidavit of financial responsibility is required (by U.S. law) before an I-20 form (necessary for procuring a student visa from a U.S. Embassy or Consulate) can be issued.

Further information regarding international applications is available from:

Director of International Admission
Enrollment Center
Juniata College
Huntingdon, PA 16652-2196 USA
FAX: (814) 641-3100 E-mail: usastudy@juniata.edu

ENGLISH-PATHWAYS ADMISSION

International applicants with TOEFL test scores of 56 – 78 (or equivalent) Internet-Based (iBT)* may, if otherwise qualified academically, be granted Pathways Admission, provided they complete the appropriate English as a Second Language (ESL) coursework.

The IEP follows all Juniata policies regarding advancement in its courses. Students may earn up to 15 credits in their ESL courses toward graduation requirements. While taking ESL courses the IEP faculty evaluates the students' English proficiency and they may enroll in academic coursework outside the IEP when appropriate.

*Equivalent IELTS, Duolingo, and Pearson PTE scores are also accepted.

ENGLISH-CONDITIONAL ADMISSION

International applicants with TOEFL test scores of 50 – 55 Internet-Based (iBT)* may, if otherwise qualified academically, be granted English-Conditional (EC) Admission, provided they complete the appropriate English as a Second Language (ESL) coursework.

The IEP follows all Juniata policies regarding advancement in its courses. Students may earn up to 15 credits in their ESL courses toward graduation requirements. While taking ESL courses the IEP faculty evaluates the students' English proficiency and they may enroll in academic coursework outside the IEP when appropriate.

*Equivalent IELTS, Duolingo, and Pearson PTE scores are also accepted.

INTERNATIONAL BACCALAUREATE

International Baccalaureate Diploma recipients are granted credit for one full year (30 credits) toward a degree at Juniata. Students who have an IB Diploma normally enter the College with sophomore standing. IB certificate recipients receive course credit for each higher-level examination passed with a score of 5 or higher. To receive this credit, the student will meet with the appropriate department chair or designee to consider the advantage or disadvantage of accepting credit. IB credits may be counted toward degree requirements.

NON-DEGREE STUDENTS

Any person who wants to take coursework at Juniata as a non-degree student need not apply for admission consideration but must provide proof of academic ability. The Registrar enrolls and registers all non-degree candidates.

Non-Traditional Student Admission Programs

RETURNING ADULT STUDENTS

Qualified students who have been away from the classroom are welcome to attend Juniata. Courses are offered for both degree and non-degree seeking students and may be taken on either a full-time or part-time basis. Students are enrolled in regular Juniata classes; there are currently no evening, weekend, or accelerated programs for returning adult students. Students must meet admission criteria. Degree-seeking students may apply either as transfer or freshman students. Consult the Enrollment Center for further details.

EDUCATION CERTIFICATION PROGRAM

Students with a B.A. or B.S. from an accredited four-year American college or university and who meet Education Department criteria may take courses at Juniata to receive their education certification. Students may take courses on a full-time or part-time basis. A minimum 3.0 cumulative GPA in the student's previous coursework is required. Consult the Enrollment Center or Education Department for further details.

SECOND BACCALAUREATE DEGREE PROGRAM

Students who have earned a bachelor's degree at an accredited, domestic American university or college and desire a second bachelor's degree reflecting in-depth study in a discipline other than that of their first degree may enroll upon completion of application requirements. Courses from a previous degree will be evaluated on a course-by-course basis and may be used to fulfill graduation requirements. Students must meet all Juniata graduation requirements, fulfill the department requirements within the new discipline, and observe the College residency requirement. International students who desire a second degree will be evaluated individually for their candidacy. For further information, contact the Enrollment Center.

HIGH SCHOOL STUDENT PROGRAM

In the interest of promoting a positive post-secondary experience, eligible high school juniors and seniors may take one course per semester (maximum of 4) with approval from their high school guidance counselors or instructional supervisor. Student eligibility and readiness for college-level course work is determined by the high school guidance counselor or instructional supervisor.

Tuition for the High School Student Program varies per credit. Tuition statements are sent directly to the student, not the high school. Students who are eligible for free or reduced lunch at their high school are eligible for free tuition in the High School Student Program.

Graduate

Please see https://www.juniata.edu/academics/graduate-programs/.

Cost and Financial Aid

STUDENT FINANCIAL PLANNING

Juniata College offers a wide array of student financial planning services, ranging from deferred payment plans to scholarship programs. The Office of Student Financial Planning provides substantial, diverse funding and planning opportunities for all families regardless of means.

Families may have unique circumstances that affect their ability to meet college expenses. While some families may have little interest in traditional forms of financial assistance, others require support from the many resources available from federal, state, and institutional programs. Student Financial Planning staff members are available to help identify sources of financial support and to discuss funding resources and opportunities.

Sources of Aid

Generally, the resources available to provide assistance fall into three broad categories: scholarships and grants, loans, and work.

Scholarships and grants are commonly termed "gift" assistance and need not be repaid (unless so stipulated as a condition of the award).

GRANTS

Grants are usually provided to meet a student's financial need as established through the submission of the Free Application for Federal Student Aid (FAFSA®). Please review the section titled, "APPLYING FOR FINANCIAL AID" for further information.

SCHOLARSHIPS

Scholarships are generally awarded in recognition of academic achievement, talent, or some other characteristic. Financial need may not necessarily be a selection requirement.

Competitive Scholarship programs:

Juniata offers an array of competitive scholarships that recognize the outstanding achievements of incoming students without regard to financial need. **Academic Scholarships at Juniata reward students who do well academically and also contribute to their school and community by getting involved.** For most scholarships at Juniata, all you have to do is apply to be considered!

The list of possible, annually renewed academic scholarships is below:

- **James Quinter Scholarships** – honors the College’s first president
- **Calvert Ellis Scholarships** – honors the president who led Juniata in the post-World War II era
- **M.G. Brumbaugh Scholarships** – honors the College’s third and fifth president

- **Elizabeth Baker Scholarships** – honors a philanthropist dedicated to the pursuit of peace
- **Phoebe Norris Scholarships** – honors a woman in the first graduating class of 1879
- **Phi Theta Kappa Transfer Scholarships** – Two scholarships are awarded annually to Phi Theta Kappa students who transfer to Juniata. Students who have active PTK membership at their current community college and at least a 3.85 GPA are eligible for consideration

Other academic scholarships that are not awarded every year include the W. Clay and Kathryn H. Burkholder Scholarship, Ronald L. Cherry Scholarship, Richard M. Simpson Scholarship and Larry Johnson Scholarship.

"External" Scholarships:

Many students receive scholarships that are awarded by agencies other than Juniata (Lion's Club, PTA, Rotary, etc.). Students are encouraged to explore these opportunities that often reduce the family's cost of education.

LOANS

Loans permit students and parents to defer a portion of the cost of education over an extended period of time. When you receive a student loan, you are borrowing money that you must pay back with interest beginning 6 months after graduation, if you drop below half-time enrollment, or leave the school. The federal government, the College, and private agencies offer programs that seek to provide educational financing. Further information is available from the Office of Student Financial Planning.

STUDENT EMPLOYMENT

Juniata provides both on and off-campus student employment opportunities to help defray educationally related expenses. While the College cannot guarantee that every eligible student will secure employment, there has been an even balance between available positions and students interested in work. Further information about available positions may be found on Handshake.

COMMUNITY WORK STUDY

The Community Work Study Program is designated for Federal Work Study-eligible students only and places these students at community agencies across Huntingdon County for part-time employment in service to the community. Students earn minimum wage while aiding organizations, become more efficient with program/event planning, and engage with the community. Tutoring programs such as the Huntingdon Community Center After-School Program, the Salvation Army ARC of Learning Program and the Bethel AME After-School program work with Huntingdon Co. youth and provide tutoring for K-12. There are also positions available with other agencies. Information, position descriptions, and applications will be available in the Office of Community Engagement.

Eligibility for Financial Aid

Students must meet the following conditions to be considered eligible for most aid programs.

ENROLLMENT STATUS

Students must be enrolled in a degree or certification program to be considered eligible for most College aid.

SEMESTER COURSE LOAD

All institutional aid requires the student enroll for twelve or more credits per semester. Students who enroll for half-time (six or more) credits may receive federal and state resources.

REDUCED COURSE LOAD FINANCIAL AID POLICY

1) We will follow similar guidelines to the federal rules on aid application:
    a) For 6-8 credits, 50% of aid is applied
    b) For 9-11 credits, 75% of aid is applied
    c) For 12-18 credits, 100% of aid is applied
2) We will continue to provide aid for up to 6 years, or through the end of the undergraduate experience.

As an example:

- Our per credit cost for the 2025-26 year is $2,490.
- For credits 6-8, the total aid the student earned will be prorated at 50%
- For credits 9-11, the total aid the student earned will be prorated at 75%
- For credits 12-18, the total aid the student earned will be applied at 100%

CITIZENSHIP

Many aid programs require that recipients be citizens, permanent residents, or eligible non-citizens (as determined by the program) statuses. Exceptions include several institutional aid programs and student employment.

OFF-CAMPUS/ STUDY AWAY

Generally, students who participate in College affiliated programs (including internships, student teaching, and study abroad) are fully eligible for most forms of assistance. Participating students apply for aid in the usual manner.

MAXIMUM VALUE FOR INSTITUTIONAL SCHOLARSHIPS, GRANTS, AND BENEFITS

It is College policy that any combination of institutional aid cannot exceed the value of tuition, except in several unique scholarship categories.

Juniata's Conditional Guarantee

A student's commitment to attend Juniata is matched by a corresponding commitment from the College. The Conditional Guarantee assures you that College-sponsored merit aid will remain unchanged for the student's four year of attendance. Because of this you can plan and budget for each year with the expectation that College aid will not be reduced.

The following conditions must be met to maintain the provisions of the Conditional Guarantee:

- Students must meet acceptable standards of academic progress (see Catalog).
- Students must file renewal applications for aid by April 1.
- Significant changes to family or financial circumstances may result in changes to financial assistance.

Cost of Education Budget

RESIDENT STUDENTS AND THOSE LIVING IN OFF-CAMPUS COLLEGE HOUSING (2025/26)

Tuition*	$61,600
Room-Double	$8,000
Room-Single	$10,000
Food	$7,000
Mandatory Fees	$1,100
Miscellaneous Expenses	$2,000
Transportation Expenses	$ 250-900 (**varies by state)
Total (used to determine aid)	$79,950
Total Direct Costs (paid to JC)	$77,700

* Books are included in tuition and fees.

** Students from states other than Pennsylvania or Maryland will have their travel budgets increased in recognition of the additional transportation costs borne by students whose residence is geographically distant from Juniata. Contact the Office of Student Financial Planning for more information.

COMMUTING STUDENTS

Tuition*	$61,600
Mandatory Fees	$750
Miscellaneous Expenses	$3,650
Transportation Expenses	$600
Total (used to determine aid)	$66,600
Total Direct Costs (paid to JC)	$62,350

* Books are included in tuition and fees.

Applying for Financial Aid

Requirements and Timing

New students (freshmen and transfers) must be admitted to the College before financial aid can be awarded. New students should file applications for assistance by March 1 to ensure they are considered for all available funding. Non-degree students pursuing teacher certification should contact the Office of Student Financial Planning for additional information.

Continuing need-based aid recipients must reapply each year by April 1. Students who fail to meet the deadline date cannot be guaranteed that their funding will remain at levels consistent with the previous years. Students seeking need-based financial aid must submit a Free Application for Federal Student Aid (FAFSA®) annually.

Students may pursue aid adjustments at any time based on special (loss of a job, etc.) or unusual (refugee or asylum status, parental incarceration, etc.) circumstances.

Applications

Students and their families may have to complete several applications to receive consideration for various financial aid programs. Forms generally fall into two categories: applications used to determine eligibility for need-based aid and loan applications.

APPLICATIONS WHICH DETERMINE FINANCIAL NEED

Juniata College utilizes the Free Application for Federal Student Aid (FAFSA®) to determine eligibility for need-based assistance. Families should carefully review the following information to decide which application(s) should be filed.

NEW FRESHMAN (NEVER ATTENDED POST-SECONDARY SCHOOLS)

The FAFSA must be submitted no later than March 1st. Electronic applications must be filed through the https://studentaid.gov/ website. In most cases a parent must secure an FSA User ID (username & password) to serve as your login to various U.S. Department of Education Systems, including the FAFSA®. Your FSA ID confirms your identity when you access your financial aid information and electronically sign Federal Student Aid documents. You should never share your FSA ID with anyone. The FSA User ID can be created by going to https://studentaid.gov/fsa-id/create-account/launch.

Each student needs an FSA ID. For dependent students, the parent providing the income information on the Free Application for Federal Student Aid (FAFSA®) will also need to register for an FSA ID.

NEW TRANSFER STUDENTS OR FRESHMEN WITH OTHER POST-SECONDARY ATTENDANCE

All transfer students that are offered admission are eligible to apply for financial aid. The application process is the same as that for new first-year students (see above).

RETURNING JUNIATA STUDENTS

Renewal reminders for the FAFSA® will be sent to each student's Juniata email address beginning in December.

LOAN APPLICATIONS – FEDERAL DIRECT

Students are required to complete the FAFSA®, Master Promissory Note (MPN), and loan entrance counseling as the chief application for a Federal Direct Loan. The MPN and entrance counseling will be completed once for the student's entire borrowing history. (In subsequent years the financial aid award letter from the College will serve as the document used to preserve or adjust the loan value). Parents interested in borrowing the Parent Loan for Undergraduate Students (PLUS) follow similar procedures. Educational loans, including all Federal Direct loans, require repayment with interest. More information can be found at: https://studentaid.gov/understand-aid/types/loans/subsidized-unsubsidized.

Financial Aid Standards of Satisfactory Academic Progress

All students (including international students) enrolled at Juniata College are subject to the academic standards of the College, which are printed in the College catalog. In addition, students receiving financial aid, in order to continue to receive financial aid, must meet other requirements as described in detail in this statement of Satisfactory Academic Progress.

The Higher Education Act of 1965 (HEA), as amended, mandates institutions of higher education to establish minimum standards of Satisfactory Academic Progress (SAP) for students receiving financial aid. Program Integrity Regulations, modifying these requirements, were issued October 29, 2010, with an effective date of July 1, 2011. In order to comply with these requirements, Juniata College has established the following definition or standard of Satisfactory Academic Progress for undergraduate students.

The federal programs governed by this regulation include Federal Pell Grant, Federal Supplemental Educational Opportunity Grant, Federal Work Study, Federal Direct Student Loans and Federal Direct PLUS Loans. Specific guidelines for other financial aid programs, including Juniata funded awards are noted throughout the policy and summarized at the end of the document.

To be considered as maintaining Satisfactory Academic Progress, both full-time and less than full-time students must meet the following standards:

REQUIREMENTS

Pace

Students must successfully complete an average of 67% of their cumulative, attempted credit hours as transcripted by the Registrar's Office.

Qualitative Measure

All students must maintain a cumulative grade point average corresponding with the table below, as transcripted by the Registrar's Office.

Credits Attempted (Including Transfer Credits) Minimum Cumulative Grade Point Average

0-35.99 1.66
36-61.99 1.80
62-89.99 1.95
90 or more 2.00

Grade Level Progression

In order to advance to the next academic grade level for financial aid purposes, the following credit hours must be completed:

To advance to: You must complete:

Grade Level 2 — 24 credit hours
Grade Level 3 — 54 credit hours
Grade Level 4 — 87 credit hours

Special Notes

Generally, it takes 120 credit hours to obtain a bachelor's degree. To graduate in four years, a student must enroll for, and earn, an average of 15 credit hours per semester. Earning only 12 credit hours per semester (minimum for full-time) would extend graduation beyond the four-year standard. Therefore, students who receive Juniata sponsored merit scholarships and need-based grants should average at least 15 credits per semester. Also, certain financial aid resources, such as the Pennsylvania Higher Education Assistance Agency and other state grants, require a minimum of 12 credits earned per semester and are only available for 8 semesters.

Maximum Time Frame

Under Federal regulation, the maximum time frame that a student may have to complete an undergraduate program is 150% of the published length of the educational program for a full-time student. Juniata College has chosen to make this measurement on a credit hour basis. In most cases, a student must have earned 120 credit hours to complete an undergraduate degree. Therefore, it is expected that all students will complete all degree requirements by the time the student has earned 180 credit hours. Transfer credits reflected on a student's transcript count as attempted and earned credit hours. Students who do not complete their program within this time frame can continue to attend, but they will not be able to continue to receive financial aid without an appeal. All Juniata sponsored Merit scholarships and need-based grants are limited to 8 semesters of eligibility, unless the student has experience unusual or mitigating circumstances that prevented degree completion within 8 semesters.

Additional Undergraduate Degrees

Students pursuing a second undergraduate, baccalaureate degree, including Teacher Certification, are limited to 90 attempted credit hours of work between receipt of the first degree and completion of the second. Second degree students may not receive federal direct loans beyond 90 attempted credit hours of enrollment in the second undergraduate degree program.

Frequency of Progress Checks

The Office of Student Financial Planning will conduct the official check of Satisfactory Academic Progress at the conclusion of the academic year, following spring semester, regardless of whether the student received financial aid or not.

If a student fails to achieve Satisfactory Academic Progress, the student will be informed of this via letter or electronic mail from the Office of Student Financial Planning. Included in this communication will be information on the student's status, the effect of this status on the student's financial aid eligibility, and any actions the student must take. The notice will be sent

to the student's most current email addresses on file. It is the responsibility of the student to inform the College of a correct mailing address at all times. If sent by electronic mail, the student's Juniata College electronic mail address will be used for all such communications.

The Dean of Students Office will be notified of students who failed to achieve Satisfactory Academic Progress.

APPEAL PROCESS

Following the first semester in which the student does not meet the Satisfactory Academic Progress standard, the student will not be able to receive financial aid for the next period of enrollment unless the student successfully appeals.

The requirements of this Satisfactory Academic Progress policy can be appealed based on the following circumstances:

- Death or serious injury or illness of an immediate relative
- Student injury or illness which required medical intervention
- Significant, unanticipated family obligations
- Catastrophic loss (e.g. flood, fire, etc.)
- Other special circumstances.

The student's appeal must include:

- An explanation of why the student failed to make Satisfactory Academic Progress. In other words, explain how the circumstance prevented the student from performing up to his or her normal academic potential.
- A description of what has changed that will allow the student to achieve Satisfactory Academic Progress status in the coming semester.

To appeal the loss of Satisfactory Academic Progress (SAP) status, the student should submit the information to the Juniata College Office of Student Financial Planning, along with any supporting documentation (e.g. death certificate, doctor's note, letter from academic advisor or other 3rd party). The Director of Student Financial Planning reserves the right to request additional information on a case-by-case basis.

Approvals/Financial Aid Probation

Students who successfully appeal are granted Financial Aid Probation status for one semester. The student will be notified by letter or by electronic mail to their Juniata email account of the results of the SAP appeal.

The student should carefully review the SAP appeal notification, which will outline the unique, individualized SAP requirements the student must meet in order to maintain eligibility for federal financial aid. For example, a student who has failed to meet the 67% pace requirement, may be told in the appeal notification that s/he must maintain a higher minimum pace on a term-by-term basis, as well as earn a certain minimum GPA each semester, in order to maintain

eligibility for federal financial aid. The student must keep the appeal notification for future reference.

Academic Plan/Statement of Intent

A part of the appeal process can be the establishment of an academic plan/statement of intent designed to help the student regain Satisfactory Academic Progress standing. The Academic Plan/Statement of Intent can be part of the student's appeal. The academic plan/statement of intent is worked out between the student, his or her academic advisor, and/or the Registrars' Office.

The academic plan/statement of intent is not required at the start of the probationary semester. But, if the student fails to regain Satisfactory Academic Progress status at the end of the probationary semester, the student must be successfully following the academic plan/statement of intent in order to continue to receive financial aid.

The academic plan/statement of intent must define how the student can regain Satisfactory Academic Progress status by a specific point in time.

Denials

If a SAP appeal is denied, the decision is final for the enrollment term specified by the student on the appeal form. A student may be able to re-establish eligibility on their own, for future semesters, by completing sufficient credit hours and/or improving their GPA such that s/he then meets the SAP requirements. Please contact The Office of Student Financial Planning if you have questions about reestablishing eligibility.

Financial Aid Probation

A student is considered to be on Financial Aid Probation during the first semester s/he receives federal financial aid under an approved SAP appeal.

Important - Please Note: A successful appeal of academic suspension is unrelated to financial aid suspension and does not result in reinstatement of a student's financial aid eligibility. Appealing one's financial aid suspension status is a separate process.

Financial Aid: The crediting of financial aid ceases for withdrawing students in the semester in which separation occurs. Federal regulations require that refunds be made in the same order as credited. Credits are applied to bills in the following order:

- Unsubsidized Federal Direct Loans (other than PLUS loans)
- Subsidized Federal Direct Loans
- Federal Direct PLUS Loans
- Federal Pell Grants for which a Return of funds is required
- Federal Supplemental Opportunity Grants for which a Return of funds is required
- Federal TEACH Grant for which a Return of funds is required
- State Grants

- Juniata Grants and Scholarships
- Other payments

Miscellaneous

REPEATED COURSES

Some students repeat courses they have passed in order to raise their grade point averages (GPA). Be aware that repeating a course for which credit has been earned (a grade of “D-” or higher received), will not result in additional, earned (i.e. new) credit for financial aid/academic progress or degree requirement purposes. When repeating courses for which credit has already been earned, students should plan their class schedules carefully to ensure that they continue to meet SAP requirements.

WITHDRAWALS

Courses for which a student receives a grade of "W" are included in the number of attempted hours, but do not count as earned credit hours for SAP purposes.

TRANSFER CREDITS

Transfer credits reflected on a student's Juniata academic transcript are counted as both attempted and earned credit hours for SAP purposes. This includes college credits earned either as a full or part-time college student at another institution or through dual enrollment.

OTHER GRADES

Courses for which Satisfactory or Unsatisfactory grades are received count as both attempted and earned credit hours for SAP purposes. Courses for which a student receives the grade of “AU” (audit) will not count as attempted or earned for SAP courses.

RENEWAL OF JUNIATA SCHOLARSHIPS AND GRANTS

Students receiving Juniata funding must earn an average of 12 credits per semester in order to have the award renewed, unless the student has experience unusual or mitigating circumstances that prevented him/her from completing the credits.

Juniata sponsored Merit scholarships and need-based grants are limited to 8 semesters of eligibility, unless the student has experience unusual or mitigating circumstances that prevented degree completion within 8 semesters.

APPEALS

Students who fail to meet the progress standards noted above have several options. They may supplement credit earned by attending summer school; they may continue without aid; or they may petition for the reinstatement of aid. Appeals must be in writing and based on unusual, mitigating, or extraordinary circumstances which impeded their ability to maintain progress standards. (NOTE: Appeals granted by the Office of Student Financial Planning have no bearing on decisions made by the Student Academic Development Committee.)

EXPENSES

At a time when most higher education institutions' charges continue to outpace the general inflation rate, a Juniata College education remains affordable for students of appropriate academic ability. Despite the continued rise in the costs of services required for education, Juniata has managed to hold inevitable fee increases to moderate levels, often resulting in pricing a Juniata education below that of comparable institutions, increasing the real value of our educational product.

GENERAL FEE

Charges are based on a general fee covering most of the annual costs to a student:

	Resident Students	Non-Resident Students
Fall Semester	$38,850	$31,175
Spring Semester	$38,850	$31,175
Total	$77,700	$62,350

The general fee is applied to regular instructional costs: use of Juniata's library and instructional facilities; academic services; personal student services; and maintenance and other operational costs. The general fee for full-time students also covers many extracurricular expenses including admission to all home athletic events and numerous campus social activities; most of the admission charges to designated, College-sponsored cultural programs; use of all recreational/athletic facilities; and subscriptions to the student newspaper (The Juniatian). A student paying the general fee may take a normal load of 12 to 18 hours per semester. When permission is given to register for work in excess of the normal program, either in a given semester or for the academic year, the overload fee is $750.00 for the 19th credit hour and $1,970.00 per credit for the 20th and 21st credit hours.

The yearly general fee for resident students also covers board charges and room rental for regularly announced periods when the dining hall and residence halls are open (see the College calendar). A limited number of students, with approval from the Dean of Students, may live off campus each year, but others are expected to reside on campus unless they live with parents or guardians and commute from home in the immediate area. There are two meal plan options for resident students and one meal plan for non-resident students. Questions about meal plans should be addressed to Student Services.

MATRICULATION

Matriculation: When a student has been accepted for admission as a degree-seeking student, a $400 matriculation fee is to be paid by May 1. This nonrefundable fee reserves a space in the entering class.

OCCASIONAL ACADEMIC FEES

Auditing: The fee for auditing is $1000 per course and is waived for students in good standing who are regularly enrolled in a full-time College program.

Overload: Students registering for more than 18 hours per semester are charged $750.00 for the 19th credit hour and $1,970.00 per credit hour up to 21 credit hours. Courses extending over more than one semester are prorated. If the student withdraws from a course(s) following the drop/add period, this charge must still be paid.

Special Course Charges: Some courses have laboratory, studio, or special field experiences as significant parts of the course. A special fee of $30 is usually assessed for these courses, with the exception of Biology and Chemistry. The fee for those courses is $100. Other departments with courses which require a special course fee include art, education, geology, music and physics. Some general education courses also require this fee. The fee for students registering for off-campus student teaching is $50.

Private Instruction in Music: Regularly enrolled students who wish to take private music lessons for academic credit will be charged $1000 for a two-credit, one hour per week lesson, or $500 for a one-credit, thirty-minute per week lesson.

Private Instruction in Ceramics: Regularly enrolled students who wish to take ceramics lessons for academic credit may do so as part of their normal academic program. If lessons constitute an overload, the normal overload charge applies. Students who do not desire academic credit, or persons not regularly enrolled at the College, may take lessons for $1,000 per semester (one lesson per week).

SPECIAL SERVICES FEES

Student Activity Fee: This fee provides funding to Student Government and the Juniata Activities Board. These organizations assist with support for student clubs, activities and organizations. This fee is assessed per semester. The Student Activity fee for full-time residential students is $150 per semester and for part-time students is $55 per semester. The activity fee for full-time non-residential students is $110.

Support Services & Programs Fee: All full-time students will be charged a $160 per semester for Support Services & Programs. This fee is used for wellness related programs and other related supports. The fee is to support holistic wellbeing and broader range of campus offerings that address and enhance student wellbeing and success. It includes outreach, programming, and prosocial engagements generated through the Glaeser Counseling Center, Learning Services, Accessibility Services, Campus & Residential Life, EDI, and the Dean of Students Office among others.

Medical Insurance Coverage: An Accident and Sickness Insurance plan is available and will be billed automatically to all full-time students. The annual premium for students is $2,330.00. Students may waive this charge by completing an online form and providing proof of coverage. Further information on this plan may be obtained by contacting the Business Office.

Technology Fee: All students will be charged a technology fee at the beginning of each semester. Resident students will be charged $240 per semester; nonresident students will be charged $105 per semester. The Technology Fee for summer online courses is $55 per course. The fee includes access to campus computing resources, including but limited to the Internet, shared file storage for classes, printing, copying, and general lab computing.

Vehicle Registration: All vehicles brought to campus must be registered with the Security Office. On-campus resident students will be charged $250 per year, and off-campus resident and non-resident students will be charged $250 per year.

PART-TIME FEES

Course: Non-resident students who do not participate in the College program and do not use facilities other than classrooms, libraries, or other academic facilities, are charged $2,570 per credit when taking less than 12 semester hours. For students holding a Juniata bachelor's degree, the fee is reduced by one-half.

Summer Session: Students enrolling in summer courses will be charged $600 per credit hour unless they are participating in a program with special rates. Tuition for summer online courses is $600 per credit hour.

DEPOSITS

Student Security Deposit: Once a student enrolls at Juniata, $250 of the previously paid matriculation fee establishes the student security deposit. Assessments and fines for damages to or loss of College property and other obligations are deducted from the deposit. When the balance of the deposit falls below $50, students are required to restore the deposit to its full $250 amount. After graduation or other separation from the College, the unexpended balance is refunded by check and mailed to the student's home address.

PAYMENT OF BILLS

The general fee is due and payable prior to the beginning of each semester. Fall and spring semester bills are due on August 7th and January 5th, respectively. Financial settlement is required for all outstanding obligations. Students may be denied registration, room occupancy, and participation in extra-curricular activities without the necessary arrangements. Payment after the due date is subject to the late payment fee. Also, students cannot be granted honorable dismissal, end-of-term reports, transcripts of grades and credits, or diplomas until all College bills have been paid in full.

Monthly Payment Option: Students who wish to pay College bills on a monthly basis may use Transact (CASHNet). The interest-free, monthly payment option enables families to spread all or part of the annual expenses over equal, monthly payments. A small annual fee is charged. Low-interest monthly payment options, including an unsecured loan, a home equity credit line, and federally backed loans, are also available. Students can enroll in the payment plan on the ARCH and parents/supporters must be authorized users to enroll in a payment plan. Also, the Office of Student Financial Planning can inform students of alternative financing strategies.

Credit Card/ACH: Students who wish to pay College bills by either credit card or direct ACH Deposits from a bank account may do so by contacting CashNet through the Arch or have the student grant you access to the online payment website. Any fees associated with these types of transactions are passed onto the student.

CREDIT BALANCES

Juniata will pay credit balances to students in a timely manner, usually within two weeks of the determination of the credit balance. Credits are deemed to be applied to bills in the order as indicated in the Student Financial Planning section of the catalog.

LATE FEES

Late Payment: Any student who fails to pay his or her tuition, room, and board bill (or make proper arrangements with the Bursars Office) by the due date on the bill is charged a fee of 1.5% per month on past due balances.

Late Endorsement of Co-payee Checks: The College receives checks for tuition, room, and board made out to both the College and the student. The College may not use these funds until the check is endorsed by both the College and the student. The College will notify the student when such a check is received. Failure to endorse the check in a timely manner (generally within one week of notice date) will result in a charge of $5 for each subsequent week or part of a week.

Through an agreement with AES and other lender/guarantee agencies and the College, direct deposit of loan proceeds into the College's bank account is permitted. Students should authorize this method of disbursement by checking the appropriate box on their loan application or signing an authorization form available in Accounting Services.

Registration Late Fee: Any student who fails to register or submit a (POE) Program of Emphasis plan by the published deadline, may be assessed a late fee of $50 for each incident.

TITLE IV REFUND POLICY

As the College has expenses of a continuing nature, usually incurred on an annual basis, it assumes that students, once enrolled, will remain for the semester. However, the College recognizes that individual circumstances, including serious illness or other emergency reasons, may dictate a withdrawal.

The College uses a federally mandated refund procedure based on a percentage of semester completed to calculate charges and applicable credits for students separating from the College after the semester begins. This policy applies to students who officially withdraw, unofficially withdraw, fail to return from a leave of absence, or are dismissed from enrollment at Juniata. **A student must either notify the Dean of Students Office in writing that he or she intends to withdraw or request a leave of absence from the College or schedule an in-person or phone appointment with the Dean of Students Office. The Dean of Students Office will determine the student's date of withdrawal (or leave) based on the student's last known date of attendance or participation at an academically related activity. The Dean of Students Office will also use the last known date of attendance or participation at an academically related activity for those who unofficially withdraw or fail to provide notice. The Dean of Students notifies the Registrar's Office of the student's official withdrawal or leave of absence date, and the Registrar's Office sends an email notification to other applicable offices on campus of the official withdrawal or leave of absence date, including the Bursar's, Residential Life, Technology Services, and Financial Aid offices. This official date is then used to calculate return of Title IV funds.**

The US Department of Education requires institutions to apply the Return to Title IV Funds policy for students withdrawing who receive Title IV financial aid. The Title IV programs include Federal Pell Grants, TEACH Grants, Direct Loans, and Direct Plus Loans. The requirements for Title IV program funds when you withdraw are separate from any refund policy that the school may have. Therefore, you may still owe funds to the College to cover unpaid institutional charges.

We are required by federal statute to determine how much financial aid was earned by students who withdraw, drop out, are dismissed, or take a leave of absence prior to completing 60% of a payment period or term.

For a student who withdraws after the 60% point-in-time, there are no unearned funds. However, a school must still complete a Return calculation in order to determine whether the student is eligible for a post-withdrawal disbursement.

The calculation is based on the percentage of earned aid using the following Federal Return of Title IV funds formula:

Percentage of payment period or term completed = the number of days completed up to the withdrawal date divided by the total days in the payment period or term. (Any break of five days or more is not counted as part of the days in the term.) This percentage is also the percentage of earned aid.

Funds are returned to the appropriate federal program based on the percentage of unearned aid using the following formula:

Aid to be returned = (100% of the aid that could be disbursed minus the percentage of earned aid) multiplied by the total amount of aid that could have been disbursed during the payment period or term.

The College must determine the correct Title IV credit balance, taking into account the results from both the Return to Title IV calculation and the institutional refund calculation. The College must return the amount of Title IV funds for which it is responsible no later than 45 days after the date of the determination of the date of the student's withdrawal. If after the Return to Title IV funds and the institutional refund calculations are applied to the student's account and a credit balance results, the credit balance will be disbursed as soon as possible but no later than 14 days after the date of the Return to Title IV calculation is performed. If a student earned less aid than was disbursed, the institution would be required to return a portion of the funds. Keep in mind that when Title IV funds are returned, the student borrower may owe a debit balance to the institution.

Post-Withdrawal Disbursement: If the student did not receive all of the funds that were earned prior to withdrawing, a post-withdrawal disbursement may be due. If the student is eligible for a post-withdrawal disbursement of a grant, it must be disbursed within 45 days. If the post-withdrawal disbursement includes loan funds, the student must give permission before the funds can be disbursed. Students will be notified within 30 days of the date of the withdrawal determination of any direct loan eligibility, or a parent for a Direct Parent PLUS Loan eligibility. Permission is required to use the post-withdrawal grant disbursement for all other school charges. If a post-withdrawal disbursement from a loan results in a credit balance, the credit balance will be refunded to the student and/or the parent in the case of a Direct Parent PLUS Loan as soon as possible, but no later than 14 days after the credit balance has occurred. The school must return the Title IV funds within 45 days of the date the school determines the student withdrew.

Tuition and Room Charges & Board Charges: Tuition, room charges, and board charges are pro-rated from the first day of class of each semester and is based on the percentage of the semester which has expired. Tuition, room, and board charges will be assessed up to the 60% point. There will not be a refund after the 60% mark.

All students who separate from the College, after the start of classes, will be assessed an administrative fee of $100.

The student security deposit will be retained for those students who have only temporarily separated. The deposit will be refunded if the student chooses not to return.

Financial Aid: The crediting of financial aid ceases for withdrawing students in the semester in which separation occurs. Federal regulations require that refunds be made in the same order as credited. Credits are applied to bills in the following order:

- Unsubsidized Federal Direct Loans (other than PLUS loans)
- Subsidized Federal Direct Loans
- Federal Direct PLUS Loans
- Federal Pell Grants
- Iraq and Afghanistan Service Grants
- Federal Supplemental Opportunity Grants (FSEOG)

- Federal TEACH Grants
- State Grants
- Juniata Grants and Scholarships
- Other payments

Summer Session, Occasional Academic and Part-time Fees: Refunds are calculated proportionately according to the above table.

Procedures for Editing the Catalog

Changes become effective on the first day of the Fall term.

- The College: Institutional Effectiveness
- Curriculum: Faculty, Registrar’s Office
- Academic Policies: Faculty, Registrar’s Office
- Academic Opportunities and Resources: Institutional Effectiveness
- Student Life: Vice-President for Student Life or designee
- Admissions and Cost: Vice-President for Enrollment or designee

In the event that policies and procedures described herein conflict with other institutional documents, the Catalog shall prevail.